Kansas Noxious and Invasive Weed Management Plan

Kansas Department of Agriculture
and the
Kansas Noxious Weed Advisory Committee

2022

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Mike Beam, Secretary

Laura Kelly, Governor

12/29/2022

Dear Fellow Kansans:

The Kansas Department of Agriculture is pleased to present this statewide noxious and invasive weed management plan which was developed in partnership with the State Noxious Weed Advisory Committee and many of the agricultural, environmental, and natural resource groups, organizations, and agencies throughout the state. The plan is part of KDA's ongoing mission to serve Kansas farmers, ranchers, and agribusinesses, while helping to protect natural resources, promote public health and safety, and protect animal health.

This plan serves to provide transparency into KDA's weed management program; to increase and strengthen coordination between KDA and stakeholders in weed management efforts; and to promote outreach and educational opportunities to inform others as to the need for, and the tools to, manage noxious and invasive weeds wherever they are found.

We ask that you join in this fight against noxious and invasive weeds that is occurring around us. Only through everyone's involvement can we achieve the goals of this plan and continue to protect the economic and natural resources this state has to offer.

Thank you for your support and participation in improving the residential, agricultural and wild lands of Kansas.

Sincerely,

Mike Beam
Kansas Secretary of Agriculture

ACKNOWLEDGMENTS

The following groups, organizations, and agencies, listed in alphabetical order, participated in the development of this plan and continue to work toward accomplishing the goals laid out in the advancement of noxious and invasive weed management in Kansas.

Audubon of Kansas
County Weed Directors Association of Kansas
Eastern Kansas Organic Crop Improvement Association
Friends of the Kaw
Kansas Agribusiness Retailers Association
Kansas Alliance for Wetlands and Streams
Kansas Association of Conservation Districts
Kansas Association of Counties
Kansas Biological Survey
Kansas Cooperative Council
Kansas Department of Agriculture
Kansas Department of Transportation
Kansas Department of Wildlife and Parks
Kansas Farm Bureau
Kansas Forest Service
Kansas Grazing Lands Coalition
Kansas Rural Center
Kansas Soybean Association
Kansas Specialty Crop Growers Association
Kansas State University
Playa Lakes Joint Venture
Sierra Club
Tallgrass Legacy Alliance
U.S. Bureau of Reclamation
U.S. Department of Defense
USDA Farm Service Agency
USDA Natural Resources Conservation Service
U.S. Fish and Wildlife Service

EXECUTIVE SUMMARY

The agricultural and natural ecosystems of the state of Kansas are currently under attack by a large number of introduced species of plants. These plants have been introduced, both intentionally and unintentionally, into habitats and climates similar to those in which they evolved in their native ranges. However, the natural defenses that developed in those native ranges — such as predatory insects and pathogens that prevent the plants from growing, reproducing, or spreading unchecked throughout the environment — were usually not introduced with them. Without significant effort on the part of all landowners, public agencies, businesses, non-governmental organizations, elected officials, and others, these exotic plant species can interfere with, damage or even destroy natural ecosystems and agricultural lands and prevent native or desirable species of all types, not just plants, from continuing to live as they have in the past.

This plan is intended to help everyone in the state manage these plant species, stop the spread into new areas, prevent the establishment of new species, and restore previously infested areas. Emphasis will be placed on the early detection of infestations and rapid response to those infestations through reporting, mapping, and management actions.

Further efforts will be placed on promoting innovative new programs, the prevention of new infestations and the spread of existing populations, and partnerships among the various agencies, groups, and organizations involved in these actions. Control efforts will be geared toward the use of integrated weed management techniques that involve a multi-pronged approach to weed management.

The obstacles that stand in the way of these goals will be addressed, such as those that involve regulatory and funding issues as well as those aspects of the current program that are lacking, including monitoring of, and surveys for, existing weed populations.

This is intended to be a living document that will evolve along with the weed management program. Input and involvement from individuals and groups interested in the control, management, and eradication of noxious and invasive weeds as well as those concerned with the continued best management of the lands of Kansas will help develop a strong and efficient program of invasive plant management.

Table of Contents

INTRODUCTION

In Kansas, noxious weeds have a rather circular definition in that a noxious weed is any plant species declared to be noxious by the Secretary of Agriculture. Generally, those species that have been declared noxious are those that do, or could, cause economic or environmental harm. There are currently twelve species listed as noxious in Kansas.

Surveys of individual counties have shown that altogether, noxious weeds infest more than three million acres in the state, despite more than 85 years of control efforts by private and public landowners. Because of this, those involved in weed and land management in Kansas need to take a closer, more detailed look at the work being done.

As part of the changes to the Noxious Weed Act (K.S.A. 2-1313a et seq.), the State Noxious Weed Advisory Committee (NWAC) was formed with several responsibilities, including to develop and review a state weed management plan. This management plan was developed to review the major aspects of noxious and invasive weed management at all levels of government as well as the private sector, and to create a path forward toward an inclusive statewide program that will evolve over time as new information, technology, and experience guides those involved.

This plan does not discuss the best management practices for individual species; instead, it provides a review of the most important aspects of weed management and identifies the most important parts. Those aspects reviewed in this plan are:

1. Regulatory Framework

   There are currently a number of different statutes, with accompanying regulations, that relate to noxious and invasive weeds or seeds. Most have been revised regularly since first being published, most recently less than five years ago. To keep up with new infestations and sources of infestation, this regulatory framework needs to continue to be reviewed by all parties affected, and updated as needed.

2. Noxious and Invasive Weed Species

   The list of noxious weeds is a representation of the worst of the invasive species to infest the state. There are very many more non-regulated invasive weeds that could adapt to the local environment to the point that they need to be regulated. Ongoing reviews of the exotic plant species that occur, and a determination of how invasive they are, will allow land managers to adapt to new target species as necessary.

3. Coordination

   There are many groups, organizations, and agencies that own or manage land in the state. Each of them have different levels of responsibility and capabilities to manage noxious and invasive weeds. Those differences, when combined, can create an extensive, interconnected web of knowledge, experience, and contacts that can do a lot of good when properly organized.

4. Funding

All aspects of weed management require a great deal of equipment, labor, and other resources to undertake. Funding for this level of work is both extensive and crucial for the success of a productive program. Finding new sources of funding, in addition to what is currently available, is critical to the continued fight against noxious and invasive weeds.

5. Surveys and Mapping

Knowing where and how extensive the noxious and invasive weed infestations are is an important first step in planning management operations. A method for surveying areas for the presence of weeds that provides reliable, verifiable data is critical for determining the correct size, density, and distribution of weed populations. The ability to map these data at all geographic levels will track the changes in populations as well as help to determine the success of control efforts.

6. Noxious Weed Management

There are several effective integrated weed management control options identified for each noxious weed and several available for most of the invasive weeds. Because we can improve the chances of effectively controlling the weeds by having more options and types of controls available, ongoing investigations are needed to continue to add viable options.

7. Outreach and Education

Developing sources and outlets for informing the general public as to the danger noxious and invasive plants present to the state's economy and environment is vital to continuing the program into the future. It is also important to provide resources to encourage participation by everyone who owns, uses, or benefits by the land around them.

8. Research

Much of the existing knowledge regarding the management and control of noxious and invasive weeds is the result of scientific research. As needs continue and the numbers and populations of weeds increase, further research in all areas of weed management will be necessary to keep up with the demands.

Appendix A contains a list of action items that were identified by the NWAC as the highest priority aspects of weed management that need to be reviewed in detail. The work required to accomplish each action item varies depending on the topic, so individual deadlines have been assigned to each of them. The output of each action item will also differ, but they should all — individually and as a whole — provide concepts that will advance the management of noxious and invasive weeds throughout the state.

This plan will be reviewed every five years to ensure that it continues to provide initiative to those land and resource managers in Kansas with cutting edge information on weed management. Those involved in the process may change but the vision of ongoing improvement and advancement in the field will continue.

1. REGULATORY FRAMEWORK

Statutes and Regulations

There are three statutes currently in effect that have language regulating noxious and invasive weed species. While each is unique, they each restrict the introduction, movement, control, or management of plant species that are detrimental to the state of Kansas.

The Noxious Weed Act (K.S.A. 2-1313a – 2-1333) creates a framework for controlling and eradicating plant species that have been designated as noxious weeds in the state of Kansas. The Plant Protection Act (K.S.A. 2-2112 – 2-2135) provides for the quarantining of the state, or other states, to prevent or reduce the spread of plant pests (including invasive species) in the state. The Kansas Seed Law (K.S.A. 2-1415 – 2-1450) prevents the introduction of noxious and invasive weeds by restricting the sale and distribution of noxious and invasive weed seed.

These laws — and the regulations that accompany them — are as unique in their goals and objectives as the government agencies, groups, and individuals they regulate. Together, however, they serve to delineate the responsibilities assigned for the purpose of reducing the introduction and spread of new populations of noxious weeds as well as controlling and managing existing populations.

Responsibilities

Kansas Department of Agriculture

As the agency responsible for enforcing each of the statutes that regulate noxious and invasive weeds, the Kansas Department of Agriculture, through the Secretary, also has the most responsibilities under each act.

Noxious Weed Act

- Determine which plant species are declared to be noxious, upon recommendation of the State Noxious Weed Advisory Committee, and within which category each species should be placed.
- Consult, advise, or offer assistance to the County Weed Directors through the Noxious and Invasive Weeds Specialist, and approve the Weed Directors' employment.
- Determine which, if any, plant species should be declared noxious under an emergency declaration.
- Develop official methods for the control and eradication of noxious weeds and publish them as the official control programs for each species and ensure that these methods include as many of the Integrated Weed Management techniques as are available.
- Approve the listing of a species of plant requested by a board of county commissioners to be a county option noxious weed.
- Enter into agreements with any agencies of the federal government for cooperation in the control and eradication of noxious weeds in Kansas.

Plant Protection Act

- May establish temporary or permanent quarantines of this state, a portion of the state, or other states to prevent or reduce the spread of plant pests within, from, into or through this state.

Kansas Seed Law

- Prohibit the sale of the seed of those plant species declared to be noxious weed seeds.
- Restrict the sale of the seed of those plant species declared to be restricted weed seeds.
- Require the labeling of all agricultural seeds, including the name and amount of all noxious and restricted weeds seeds, so consumers are aware of what they are planting.

State Noxious Weed Advisory Committee

The State Noxious Weed Advisory Committee was created in 2018 to provide oversight and assistance to the Kansas Department of Agriculture with regard to noxious and invasive weed species.

Noxious Weed Act

- Review the state weed management plan and recommend changes and updates.
- Recommend changes to the noxious weed list.
- Recommend changes to the noxious weed act and regulations.
- Recommend changes to the official methods for control.
- Report to the Secretary on the expenditure of funds on weed control, the status of the weed control programs, recommendations on the best use of funds for weed control, and recommendations on long-term weed control needs.

Other State Agencies

This designation refers to those agencies that own or manage lands, including the Kansas Department of Transportation and the Kansas Department of Wildlife and Parks.

Noxious Weed Act

- Control the spread of and eradicate all noxious weeds on all lands owned or supervised by state agencies and use official methods to do so.
- Pay the cost of controlling and eradicating noxious weeds on all lands or rights-of-way that state agencies own or supervise.
- Use only certified weed-free grass, hay, straw, or mulch on any lands owned or managed by the state agencies.

Board of County Commissioners

The Board of County Commissioners is the ruling body of the local unit of government at the county level.

Noxious Weed Act

- Enforce the provisions of the Noxious Weed Act on all lands within the boundaries of the county.
- Control the spread of and eradicate all noxious weeds on all lands owned or supervised by them.
- Publish a list of the species of plants to be controlled in the county, with the approval of the Secretary.
- Hire and employ a County Weed Director, with the approval of the Secretary.
- Retain for at least five years all records relating to funds received into and spent from both the Noxious Weed Eradication Fund and the Noxious Weed Capital Outlay Fund and make them available to the Secretary of Agriculture upon request.
- Levy a tax each year for the purpose of paying the cost of controlling and eradicating noxious weeds or set aside a portion of the county general fund equivalent to the budget of the noxious weed program.
- Purchase or provide for needed and necessary equipment and herbicides for the control and eradication of noxious weeds, in cooperation with the Secretary of Agriculture.

County Weed Directors

The directors of the county noxious weed departments are the enforcement arm of the Boards of County Commissioners.

Noxious Weed Act

- Provide assistance and direction for the most effective control and eradication within the Weed Director's district.
- Investigate or help investigate and prosecute any violation of this act.
- Before using any chemical control for noxious weeds on any public or private lands, determine if those or adjacent lands are registered on the DriftWatch registry or other registries that provide location information about organic, sensitive, or specialty crops.
- Conduct annual surveys to determine the location and approximate amount of land infested in their county by each noxious weed species.
- Submit an Annual Weed Eradication Progress Report and a Management Plan to the County Commissioners and to the Kansas Department of Agriculture.
- Report any violations Weed Directors knows about to their county attorney.

- Become and remain informed of the best and most practical methods for noxious weed control and eradication and provide this information as necessary or when requested.
- Consult and co-operate with the Kansas Department of Agriculture.
- Confer with anyone owning or managing land in their county to discuss the extent of noxious weed infestation on their lands, and the best methods to control and eradication noxious weeds.

Retail and Wholesale Businesses

Those businesses that deal in agricultural or plant products, specifically Agricultural Seed Dealers and Live Plant Dealers. A Live Plant Dealer is considered to be any person who grows or buys live plants for sale or distribution, and an Agricultural Seed Dealer is any person who sells agricultural seeds commercially.

Plant Protection Act

- Do not move any regulated plant within, from, into, or through this state from a quarantined area.

Kansas Seed Law

- Ensure that any restricted (i.e., invasive) weed seeds included in the seed being sold do not exceed the specified allowance.
- State on the label the percentage, by weight, of all weed seed included in seed being sold.
- Ensure that no seed of any species declared to be a noxious weed seed is included in the seed being sold.

Noxious Weed Act

- Ensure that any nursery stock, plants, packing materials, animal fertilizer, soil, or sod being sold is not infested with any noxious weed plant material or seeds.

Private Landowners

Individuals who own or manage land are the front line of defense against the invasion of noxious and invasive weeds in Kansas.

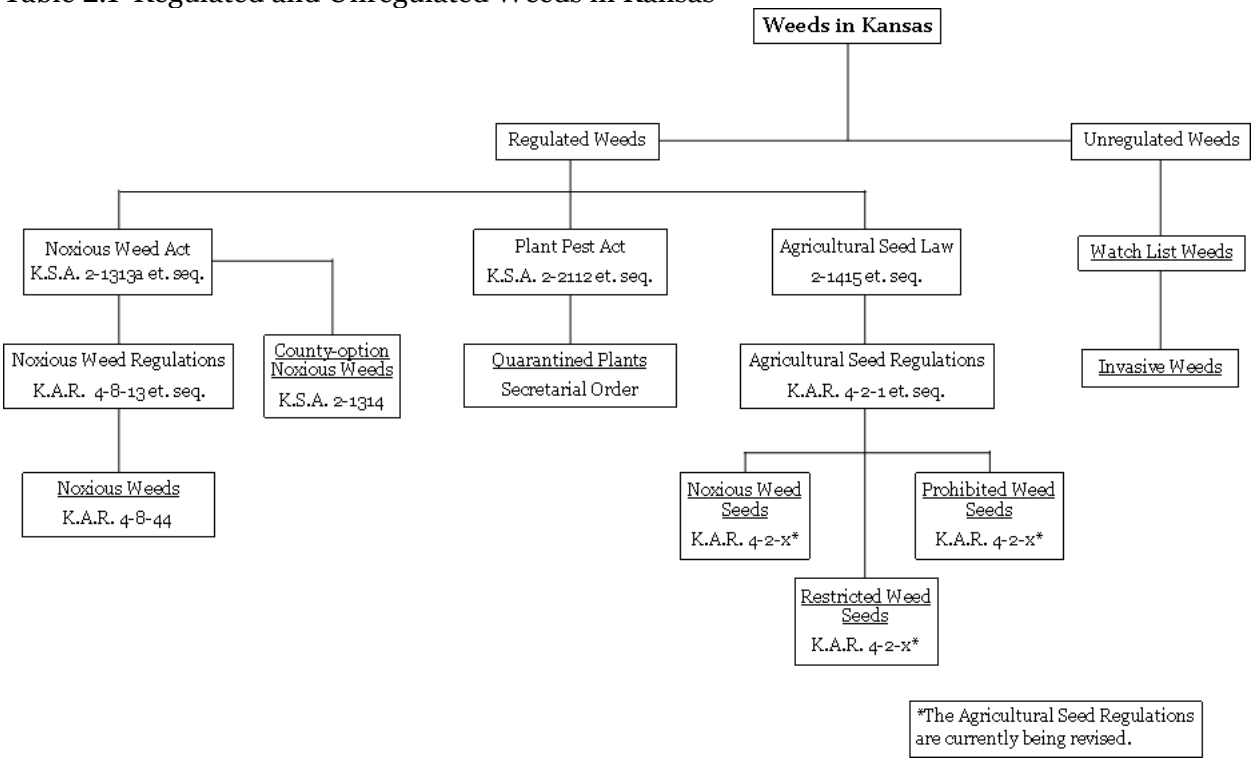
- Control the spread of and eradicate all noxious weeds on all lands that they own or supervise.
- Process any screening or offal material containing noxious weed seeds before selling or disposing them.
- Clean and ensure that any harvesting or threshing machinery, portable feed grinders, portable seed cleaners, field ensilage cutters, or other farm vehicles or machinery being brought into the state is free from all weed seed and litter.

- Clean and ensure that any harvesting or threshing machinery, portable feed grinders, portable seed cleaners, field ensilage cutters, or other farm vehicles or machinery being moved from any field or farm is free from all weed seed and litter.
- Process any livestock feed that is infested with noxious weed seeds until the viability of all noxious weed seeds has been destroyed.
- Process any grains, crops, or other material containing the noxious weed seeds until the viability of all of the weed seeds has been destroyed before feeding to livestock, unless it is used on the farm where it was grown.

2. NOXIOUS AND INVASIVE WEED SPECIES

This plan covers a diverse group of species, all considered to be invasive, but with varying levels of concern to the environment and layers of regulation attached to them. Some species have multiple designations because the lists are designated under different statutes or by different agencies. See Table 2.1 for the relationship between the regulated weeds, the statutes under which they are regulated, and unregulated weeds in Kansas.

Table 2.1 Regulated and Unregulated Weeds in Kansas

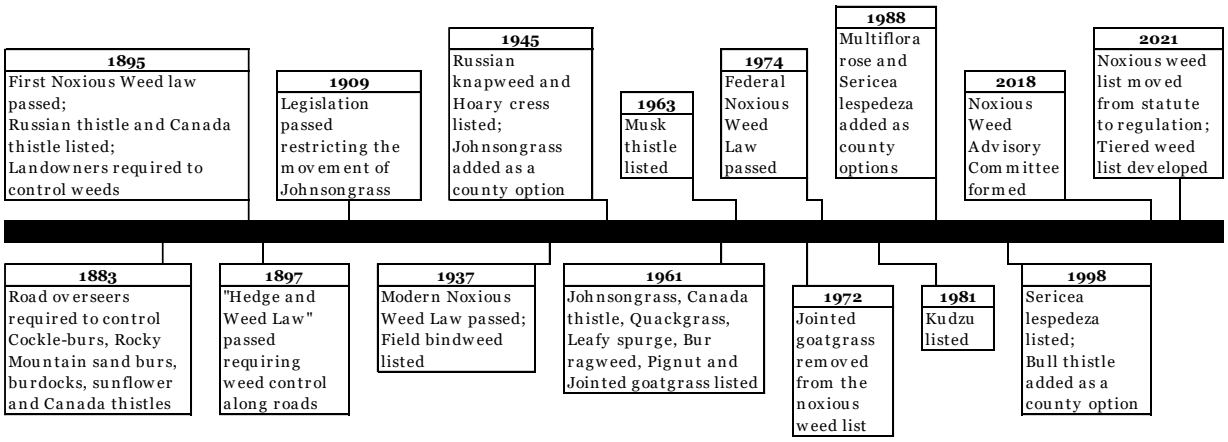


Noxious Weeds

The highest level of regulation is noxious weeds. These species have been designated in state regulation. By law, all individuals, companies, corporations, state and local agencies and boards, and railroad and other transportation companies must control the spread of and eradicate any of these species on any land they own or supervise.

In the late nineteenth century, there were various attempts to require the control of invasive, noxious, and even obnoxious weeds, but the modern noxious weed law was not enacted until 1937. At that time, the list of plant species declared to be noxious was in the statute itself, which required the legislature to determine which weeds would be listed. When first enacted, only one plant species was declared as noxious — field bindweed. Since then, 12 additional species have been added to the list, including jointed goatgrass, which was listed in 1961 but then removed in 1972 (Figure 2.1). In 2018, a major revision of the law removed the noxious weed list from the statute and replaced it with a new list in the accompanying regulations. This allowed for a more proactive, science-based listing process. It also created a tiered list which allowed for a prioritized approach for regulating the control and eradication of noxious weeds.

Figure 2.1 Historical Weed Control Enforcement



The current noxious weed list is:

Category A weeds

Species that are generally not found in the state or are found limited in distribution throughout the state and are subject to exclusion from the state or active eradication wherever detected statewide, in order to protect neighboring lands and the state as a whole.

Hoary cress	(*Lepidium draba*)
Leafy spurge	(*Euphorbia virgata*)
Pignut	(*Hoffmannseggia glauca*)
Quackgrass	(*Elymus repens*)
Kudzu	(*Pueraria montana* var. lobata)
Russian knapweed	(*Rhaponticum repens*)

Category B weeds

Species that have discrete distributions throughout the state and are subject to control wherever populations have become established within the state and subject to active eradication wherever populations are not established.

Canada thistle	(*Cirsium arvense*)

Category C weeds

Species that are well-established within the state and known to exist in larger or more extensive populations in the state. New populations shall be subject to control efforts directed at reducing or eliminating those populations and known and established populations of Category C noxious weeds shall be managed by any approved control method.

Field bindweed	(*Convolvulus arvensis*)
Musk thistle	(*Carduus nutans*)
Johnsongrass	(*Sorghum halepense*)
Sericea lespedeza	(*Lespedeza cuneata*)
Bur ragweed	(*Ambrosia grayi*)

County-option Noxious Weeds

In 1945 the legislature began allowing the counties to select from a list of one or two species that could be declared to be noxious weeds in individual counties. The 2018 revision of the statute removed the pre-set list of species and allowed counties to list any species as noxious that they feel is having an especially adverse effect on the environment or economy of the county, with the Secretary's approval. Once declared to be noxious in a county, a species is treated the same, in that county, as statewide noxious weeds, with all of the same rights and responsibilities. The priority placed on these species (i.e., Category A, B, or C) will be the decision of the listing county.

The species declared to be county option noxious and the counties that have declared them are:

Common teasel (*Dipsacus fullonum*)

Elk County
Franklin County
Greenwood County
Linn County
Washington County
Woodson County

Cut-leaf teasel (*Dipsacus laciniatus*)

Elk County
Franklin County
Linn County
Washington County
Woodson County

Caucasian bluestem (*Bothriochloa bladhii*)

Greenwood County

Watch List Species

The Watch List of invasive weed species is a non-regulatory list of those invasive weeds that either are not known to be established in Kansas but could be in the future, or those species already in the state and with the potential of becoming problematic. They are also species about which not much is known, as far as their range or rate of spread. The official Watch List was developed by the State Noxious Weed Advisory Committee in 2022 with input from the public, conservation organizations, and other state agencies. The public is encouraged to report the location of any plant or infestation they find to either their county weed director or the Kansas Department of Agriculture. A sample of the plant should be collected for submission to the McGregor Herbarium at the University of Kansas and the Kansas State University Herbarium.

Terrestrial Species

There are currently no designated terrestrial species.

Aquatic Species *(species currently listed as aquatic nuisance species by KDWP)*

Eurasian watermilfoil	(*Myriophyllum spicatum*)
Curly-leaf pondweed	(*Potamogeton crispus*)
Purple loosestrife	(*Lythrum salicaria*)
Hydrilla	(*Hydrilla verticillata*)
Invasive phragmites	(*Phragmites australis* subsp. australis)
Salt cedar	(*Tamarix* spp.)

Invasive Species

All other species of plants that negatively impact the state's natural resources, economy, and human health by altering ecosystem processes, reducing the abundance of native and desired species, introducing pathogens and parasites, and damaging agricultural crops are considered to be invasive. At this time there is no official list of plant species that are considered to be invasive.

Quarantined Plants

Under the Plant Pest Act, species that have been determined to be invasive but not to the point of being noxious can be listed as regulated articles under quarantines that restrict their movement within, from, into, or through this state. Plant species listed as regulated species are often, but do not have to be, ornamental species that had been sold and planted in Kansas before their invasive qualities were determined.

Regulated species currently under quarantine are:

Grecian foxglove	(*Digitalis lanata*)
Salt cedar	(*Tamarix* spp.)
Purple loosestrife	(*Lythrum salicaria*)

All federal noxious weeds per 7 CFR 360.200

Prohibited and Restricted Weed Seeds

The Kansas Seed Law lists species of plants whose seeds are not allowed to be present in any agricultural seed being sold in the state, and those that are only allowed in limited numbers. This is to prevent any further introduction or spread of noxious or highly invasive weed species.

The species declared to be noxious weed seeds are the same as those declared to be noxious weeds:

Hoary cress	(*Lepidium draba*)
Leafy spurge	(*Euphorbia virgata*)
Pignut	(*Hoffmannseggia glauca*)
Quackgrass	(*Elymus repens*)

Kudzu	(*Pueraria montana* var. lobata)
Russian knapweed	(*Rhaponticum repens*)
Canada thistle	(*Cirsium arvense*)
Field bindweed	(*Convolvulus arvensis*)
Musk thistle	(*Carduus nutans*)
Johnsongrass	(*Sorghum halepense*)
Sericea lespedeza	(*Lespedeza cuneata*)
Bur ragweed	(*Ambrosia grayi*)

Prohibited Weed Seed Species

A proposed new classification of weed seed species that, if passed as currently written, would be defined as non-noxious weed species whose seeds or bulblets cannot not be present in agricultural seed in any amount.

The species declared to be prohibited weed seeds are:

Texas blueweed	(*Helianthus ciliaris*)
Columbus grass	(*Sorghum ×almum*)

Any seeds that cannot be distinguished from Johnsongrass seed.

Restricted Weed Seed Species

Invasive weed species that are allowed to be present in agricultural seed but only in limited quantities are listed in the Kansas Seed Law along with the number of seeds per pound of agricultural seed that is allowed.

The species declared to be restricted weed seeds are:

Velvetleaf	(*Abutilon theophrasti*)
Jointed goatgrass	(*Aegilops cylindrica*)
Wild onion or garlic	(*Allium* spp.)
Wild oats	(*Avena fatua*)
Wild mustards	(*Brassica* spp.)
Hairy chess	(*Bromus commutatus*)
Cheatgrass	(*Bromus secalinus*)
Hedge bindweed	(*Calystegia sepium*)
Dodder	(*Cuscuta* spp.)
Climbing milkweed	(*Cynanchum laeve*)
Wild carrot	(*Daucus carota*)
Treacle	(*Erysimum* spp.)
Wild buckwheat	(*Fallopia convolvulus*)
Morning glory	(*Ipomoea* spp.)
Oxeye daisy	(*Leucanthemum vulgare*)
Buckhorn plantain	(*Plantago lanceolata*)
Dock	(*Rumex* spp.)
Perennial sowthistle	(*Sonchus arvensis*)
Carolina horsenettle	(*Solanum carolinense*)

Silverleaf nightshade	(*Solanum elaeagnifolium*)
Charlock	(*Sinapis arvensis*)
Black nightshade complex	(*Solanum ptychanthum*, *S. americanum*, *S. sarrachoides*, *S. nigrum*, and *S. interius*)
Giant foxtail	(*Setaria faberi*)
Field pennycress	(*Thlaspi arvense*)
Cocklebur	(*Xanthium* spp.)

Listing Process

The various lists mentioned above each have their own procedure for including species. The noxious weed and the county option lists are the only ones that are spelled out to any extent in statute. The others have developed through Kansas Department of Agriculture policy or through discussion with stakeholders.

Noxious Weeds

The Noxious Weed Act requires that the Secretary of Agriculture determine which species of plants be declared as noxious but only after they have been recommended by the State Noxious Weed Advisory Committee. The Advisory Committee is required to use a risk assessment to determine which species to recommend to the Secretary and under which category they believe it belongs.

County Option Noxious Weeds

Once a county decides to list a species as noxious in that county, they must first develop a control program, similar to those developed for each statewide noxious weed, for the species being proposed. This document, along with a declaration request form, is submitted to the Secretary of Agriculture for approval. Once approved, the species is regulated in that county in the same way as are the statewide noxious weeds, including the availability of cost share herbicides for control.

3. COORDINATION

Two main characteristics of a noxious weed are that they spread quickly and can grow in multiple habitats and conditions. Because of this, and the fact that many agencies, groups, and individuals own and/or manage land in Kansas, the control and management of noxious weeds affects just about everyone. Therefore, the coordinated efforts of individuals, organizations, and agencies are needed to help control noxious and invasive plant species across the state.

Government Agencies

All levels of government own or manage land to some extent in the state and therefore have a stake in working together to control and eradicate noxious weeds, whether it be on a legal or advisory level. This same coordination can, and does, work with organizations and individuals.

Federal

While land owned or managed by federal agencies in Kansas is extremely limited compared to many other states, federal agencies have resources often not available at the state level and can draw upon nationwide sources of information to help control the weeds on the lands they manage as well as on adjacent non-federal lands.

State

The state, particularly the Kansas Department of Agriculture, has and will continue to take the lead in coordinating the control and eradication of noxious weeds through its Noxious and Invasive Weed Program within the Plant Protection and Weed Control Program by providing legal and technical support as well as educational and outreach materials.

County

The counties, through their Noxious Weed Departments, work with all landowners and managers within their boundaries to provide weed control advice and expertise, conduct direct weed control activities, enforce the law as it pertains to the control of noxious weeds, and offer cost share herbicides to county landowners for private noxious weed control.

Local

While townships, cities, and other local forms of government can develop noxious weed programs and hire their own noxious weed directors, they often develop relationships with their county programs for noxious weed control. They can also provide a more directed message to their smaller and more localized resident populations.

Non-Profit Organizations

While most non-profit and other organizations do not own or manage their own lands, they have a great interest in the environment as a whole and want to work with other interested parties in preserving, protecting, and properly using the lands of the state. They often have an extensive collective knowledge base and can offer a significant volunteer workforce.

Private Landowners

With the vast majority of the land in Kansas being privately owned, individual landowners contribute most of the actual control of noxious weeds. They can also offer the greatest input toward the coordinated fight against these weeds.

4. FUNDING

A reliable source of funding dedicated to noxious weed management in Kansas is imperative to maintain a stable, consistent control program. Due to the nature of the problem, the lower the current funding, the more funding will be needed in the future. While any funding at any governmental level would be beneficial, the Noxious Weed Act assigns the most responsibility to the counties so financial assistance at that level would provide the greatest advantage.

Current

State

The State Noxious and Invasive Weed Program is currently funded through state general funds (SGF) budgeted to the Kansas Department of Agriculture by the state legislature. Of all the SGF assigned to the department, a small portion is assigned to the Plant Protection and Weed Control Program. A share of this is allotted to fund one full-time position, the State Noxious and Invasive Weed Specialist. No other funding is provided at the state level.

County

Each county is obligated by law to hire and employ a County Weed Director. This position is required to be funded through the assessment of a noxious weed tax, which is supposed to be based on the acreage of infestation of noxious weeds in the county as determined by an annual survey. Programs may also receive general funds budgeted to them by the Board of County Commissioners. The amount of funding available varies from county to county and results in the employment of from one to five positions in the weed department. Many of the weed directors are assigned to multiple positions within the county, resulting in their being able to spend as little as 20% of their time on noxious weed control. Much of the county weed program's budget is spent on spraying of rights-of-way for noxious and non-noxious weeds, and the purchase of herbicides to be sold at cost share prices to landowners for noxious weed control.

All funds received through either the tax or from general funds must be used for the control and eradication of noxious weeds, and any funds remaining in the noxious weed eradication fund at the end of the year must either be transferred to the noxious weed capital outlay fund for capital expenditures related to the control of noxious weeds or rolled over for use in the next year. Additionally, any income received through cost share chemical sales or equipment rental, for example, must be deposited into the noxious weed fund and any expenses incurred must be paid out of the fund.

Potential

While additional funds for the control and eradication of noxious weeds are always being sought, the opportunities are limited. Most of these are competitive grants offered by the federal government.

Other states have innovative funding sources that Kansas might consider adopting. These include the statutory creation of a noxious weed trust fund allowing for funding noxious weed programs at both the state and county levels. Another source being used elsewhere is the allocation of certain funds collected through pre-established registrations or taxes.

5. SURVEYS AND MAPPING

Knowing where noxious weeds have become established is critical to their control and eradication. The Kansas Noxious Weed Act requires that county weed directors make annual surveys of noxious weed infestations and determine the approximate amount of land and right-of-way that is infested with each species of noxious weed and its location in the county.

The information gathered through these surveys allows the county weed director to plan future weed management projects and develop species-specific management priorities. It is also used to determine the noxious weed tax that counties are allowed to levy to fund the program. The Kansas Department of Agriculture's Noxious and Invasive Weed Program also uses the data to track management activities and plans statewide.

Surveys

The current method for determining the location, size, and extent of noxious weed infestations in Kansas was developed in the early 1990s. Instead of requiring each weed director to survey their entire county as required by statute (up to 914,000 acres), the department asks them to inspect ten randomly selected sections of land within their county each year, not to exceed a total of 6,400 acres. They are requested to survey these sections multiple times each year to account for phenological differences within and among noxious weed species.

The total number of acres determined to be infested by a single species is extrapolated for the entire county through the use of the formula in Table 5.1. To this number the weed director adds, for each noxious weed species, the size of any infestations they know of within the county but outside of the assigned survey sections. This was believed to allow for a more accurate estimate of the infested acreage within the county, but has not been tested statistically.

While this survey method provides an idea of the location and extent of the noxious weed infestations throughout the state, it is limited in that it does not reflect a true estimate of the populations and allows for widely varying estimates of infested acreage from year to year. A new survey method should be developed as soon as possible to provide for a more accurate and scientifically valid estimate of the number of acres of noxious weeds in each county of the state.

Reporting

Each county weed director is required to submit the infested acreage for each noxious weed in their county in an annual report each year based on the survey data (Table 5.1). This information is used to track the spread and/or reduction of infestations.

Infestations of invasive species, especially the watch weeds, can be reported by anyone to the local county weed department or to the Kansas Department of Agriculture's Noxious and Invasive Weed Program. This information is critical for identifying previously unknown infestations of current noxious weeds and new infestations not previously known to be in the state. It also helps to estimate the size, extent, and location of populations of known invasive weeds.

Table 5.1 Survey Extrapolation

	Total Acreage Found Infested	÷	Total Acreage Surveyed	X	Total Acreage of County	=	Estimated Acreage Infested	Noxious Weed Director's Adjustment of Estimated Acreage
Private Lands								
Wheat								
Corn								
Soybeans								
Grain Sorghum								
CRP								
Range/Pasture								
Other Crops								
Fallow		÷		X		=		
Non-Agricultural								
Sub-Total of Private Lands								
County Lands								
Township Lands								
State Lands								
Federal Lands								
City Gov. Lands								
Total Estimated Acreage								

Mapping

The calculated survey data produced by the county weed directors is used to develop individual statewide infestation maps (Figure 5.1) for each species representing the relative abundance of that weed in relation to other counties.

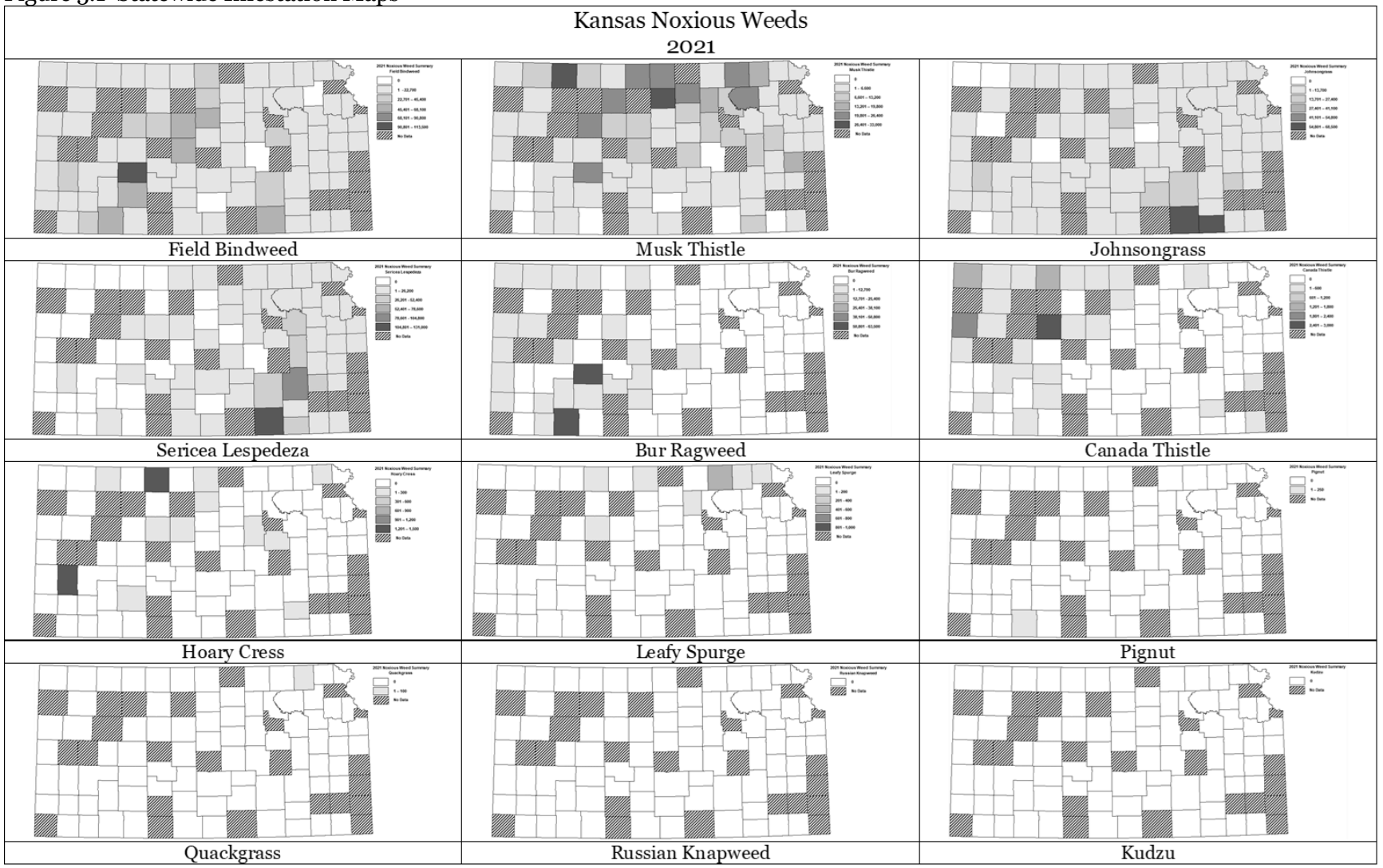
KDA requests that the public and all agencies and organizations enter sightings of any noxious or invasive plant species they observe into the Early Detection and Distribution Mapping System (EDDMapS.org) online or through the phone app. Any sightings reported through this mapping system will be verified by the KDA Noxious and Invasive Weed Program before being released to be added to the national database and plotted on a map. Other data collected in the EDDMapS database include the area, density, and age class of the infestation as well as the habitat infested. This mapping program allows for any interested party to view the area and extent of noxious and invasive weed infestations and their spread over time. Also, as the program allows infestations to be labeled as treated so that the progress of control efforts may be tracked.

Monitoring

While monitoring is one of the most important aspects of weed control, it is often the most overlooked.

Especially with perennial weed species and those that have been established long enough to have developed a seed bank, one attempt at controlling a population is not enough. Therefore, these populations must be monitored to identify the efficacy of each control effort and determine if further actions will be required. Such monitoring should continue until after the last weed in the population has been killed to ensure that no other plants will emerge.

Figure 5.1 Statewide Infestation Maps



6. NOXIOUS WEED MANAGEMENT

The Kansas Noxious Weed Act states that it is the duty of anyone owning or supervising land to control the spread of, and eradicate, all weeds declared to be noxious. This requires that weeds be prevented from reproducing sexually by seed or asexually by roots, rhizomes, or other vegetative means. While there are many means by which to make this happen, not all methods work for each weed species.

While all treatments should be conducted with the goal of eradicating the population being treated, this may not always be possible. With larger or more established infestations, control plans should be geared more toward reducing the size of the population or containing the infestation to prevent it from becoming any larger.

Preventive Measures

While the pathways through which invasive plant species are introduced and those by which they are spread are similar and have considerable overlap, introduction is considered to be the result of long-distance movement such as from one nation to another, or between states, and spread is considered to be more local as in within a county or between adjacent counties. Since both pathways involve the movement of noxious weeds, understanding the pathways is the first step in preventing weeds from becoming established.

Introduction and Spread Pathways

Pathways are the processes by which a plant is introduced into an area outside of its natural range or moved from one new area to another. Both introduction and spread pathways can be classified into two major categories: natural and man-made.

Natural pathways are adaptations that plants have evolved to aid in dispersal. The most common methods used by plants include seed and/or fruit dispersal by wind, water, and animals.

While it can be very difficult to prevent the movement of noxious weeds through natural pathways other than to quickly eradicate them from a given area, some actions can be taken to reduce the chances of weed introductions. These include restoring disturbed soil that results from tillage or construction projects and planting native or non-invasive plant species to provide competition for resources, therefore reducing the opportunity for noxious weeds to become established.

Man-made pathways are those created by human activities and can be either intentional, such as through domestic and international trade, or unintentional, such as contaminated material or equipment.

Man-made pathways, compared to natural ones, are more easily avoided. International trade is one of the most common ways for invasive plant species to be introduced into a new area. The nursery and aquarium trades are the most obvious sources, but these plants can stow away as contaminants in packing material, or on or in poorly cleaned equipment. Domestic trade can further spread these plant species.

Early Detection and Rapid Response

Once a species has been introduced into an area, it is critical to act quickly and efficiently to control it. This is where the tool known as Early Detection Rapid Response comes into use. Having an ongoing monitoring program established throughout an area of concern will allow for locating and identifying a new infestation soon after it becomes established but before it develops an extensive root system or a seed bank. Following detection with rapid control efforts will increase the likelihood of permanent eradication of this new population and at much lower cost than if efforts were delayed.

Treatment Methods

Weed control treatments should be tailored for specific species, locations, and populations. Timing of control treatments is also critical to maximize effectiveness. Some species should be treated while they are actively growing in the spring, while others are more susceptible during flowering.

Integrated Weed Management

Integrated weed management (IWM) is a broad-scale approach to controlling noxious and invasive plants and involves the use of multiple techniques to achieve sustained weed control. While not every integrated weed method is available, or recommended, for each weed species, combining as many different methods as are available into an integrated attack will increase the possibility of successfully controlling, if not eradicating, the population.

Integrated control techniques available fall into four categories: biological, chemical, cultural, and mechanical. There are both advantages and disadvantages for each of these methods.

Biological

Biological controls involve the use of living control agents, including insects, mites, or pathogens — but not including livestock — to attack target plant species in order to reduce the health, vitality, or reproductive potential of plants, or to stress plants enough to allow other control methods to work more effectively. Agents used for control have been studied extensively in controlled conditions to ensure that they will only affect the target species and no others, even if their target species is eradicated. Biological controls will generally not kill the plant outright as the agent relies on the presence of that specific plant species to survive.

Only a few agents are available for use in biological control programs because very few agents infest one plant species exclusively, and not all of those species are invasive. Also, the transportation of many biological control agents across state lines is regulated by the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS). The KDA Noxious and Invasive Weed Program has permits with APHIS for the importation and use of biological agents for several noxious and invasive weed species in the state. Other agents can be shipped into the state without a permit and so are available to anyone interested in using them. (Table 6.1)

Table 6.1 Biological control agents available for use in Kansas[1], and their target weed species.

Target Species	Agents	
	No Permit Required	**Permit Required**
Bull thistle	*Urophora stylata*	
Canada thistle	*Urophora cardui*	*Ceutorhynchus litura*
Dalmatian toadflax	*Calophasia lunula*	
	Eteobalea intermediella	
	Mecinus janthiniformis	
	Rhinusa antirrhini	
	Rhinusa linariae	
Diffuse knapweed	*Bangasternus fausti*	*Chaetorellia acrolophi*
	Larinus minutus	*Pterolonche inspersa*
	Sphenoptera jugoslavica	
	Urophora affinis	
	Urophora quadrifasciata	
Hydrilla	*Hydrellia balciunasi*	
	Hydrellia pakistanae	
Leafy spurge	*Aphthona cyparissiae*	*Aphthona abdominalis*
	Aphthona czwalinae	*Hyles euphorbiae*
	Aphthona flava	
	Aphthona lacertosa	
	Aphthona nigriscutis	
	Oberea erythrocephala	*Spurgia esulae*
Musk thistle	*Psylloides chalcomera*	*Cheilosia corydon*
	Rhinocyllus conicus[2]	
	Trichosirocalus horridus[2]	
Poison hemlock	*Agonopterix alstroemeriana*	
Puncturevine	*Microlarinus lareynii*	
	Microlarinus lypriformis	
Purple loosestrife	*Galerucella calmariensis*	*Hylobius transversovittatus*
	Galerucella pusilla	
	Nanophyes marmoratus	
Russian knapweed	*Jaapiella ivannikova*	*Aulacidea acroptilonica*
		Subanguina picridis
Russian thistle	*Coleophora parthenica*	

Spotted knapweed	*Agapeta zoegana*	
	Bangasternus fausti	
	Cyphocleonus achates	
	Larinus obtusus	
	Metzneria paucipunctella	
	Terellia virens	
	Urophora affinis	
	Urophora quadrifasciata	
Yellow starthistle	*Bangasternus orientalis*	
	Eustenopus villosus	
	Puccinia jaceae var. solstitialis	
	Urophora sirunaseva	

Chemical

Chemical control techniques involve the application of herbicides to kill target weed species through various modes of action specific to the herbicide being used. Care must be used in the selection of the herbicides used in the control of weed species. Some herbicides are selective in which types of plants they affect and can therefore be applied more broadly; others are effective against a wide range of species and so must be used with more precision.

Herbicides are generally more effective against perennial weed species than other integrated weed management techniques in that, once absorbed, they are able to move through the plant and kill it down to the roots, which other methods are not able to do.

Because the application of herbicides is often less precise than the other IWM techniques, there can be an increased chance of damage to nearby native or desirable species. Care should be taken to reduce this collateral damage. Before using any herbicide always read and follow label directions. State law makes the pesticide label a legal document and requires compliance with label requirements. Specific herbicides are available to county residents from county weed departments at cost share prices for the use of controlling noxious weed species. These herbicides are listed in the official control programs for each species.

Cultural

The control techniques within this category are often those methods that can be used to prevent the introduction or establishment of weed species. They also include the use of grazing by livestock.

In addition to the preventative measures described previously, some of the cultural control techniques involve providing competition against the establishment and growth of weeds through properly managed pastures and prairies or by planting cover crops in dormant crop fields. Testing the soil and, if necessary, adding the necessary minerals and nutrients to obtain the proper soil chemistry may also help prevent the establishment of noxious weeds.

Grazing by domesticated livestock can provide regular control of weeds by removing the above-ground portion of the plant. While this can result in the eradication of a noxious weed population, it will take three to five years to see results, especially with perennial plant species. Some livestock, such as sheep and goats, are more effective at this type of grazing but even they will avoid feeding on some species of plants that they find unpalatable or that are toxic to them.

Mechanical

Mechanical control techniques involve physical activities aimed at removing noxious weeds from an environment. Examples of this type of technique are hand-pulling, tillage, burning, and mowing and, due to the physical nature of these methods, they are generally used on smaller, more localized infestations.

Because mechanical methods are less likely to kill or remove the roots of the plant, they are generally less effective against perennial species. For annual and biennial species, mechanical methods are highly effective and are, in some cases, preferable to other types of control.

Control Programs

The Noxious Weed Act requires the Secretary of Agriculture to create official methods for the control of noxious weeds in Kansas. Those methods are adopted by reference in the regulations that accompany the statute and are known as the official control methods for each noxious weed species.

Monitoring

Because no method of noxious weed control is 100% effective, and because an established population of weeds can quickly develop a seed bank, care must be taken to revisit each control site at least once per year. Regardless of the method or methods of control used, the chances of eradicating a population with a single control application are very low.

Monitoring an area of concern can be as simple as conducting regular surveys for any noxious weeds that may emerge so as to resume control measures as quickly as possible. Any delay would result in additional inputs to the seedbank and therefore extend the length of time needed to eradicate the noxious weed population.

Restoration

After controlling noxious weeds, even before full eradication is accomplished, action should be taken to restore the area of infestation. Cultural control methods such as seeding the area with native species to provide competition against noxious weeds or adjusting the land management techniques being used can help reduce the germination of seeds from the existing seed bank and prevent a new population from being introduced.

7. OUTREACH AND EDUCATION

There are many people, groups, organizations, and agencies working to manage, control, and eradicate noxious and invasive weeds in Kansas. However, there are even more people who are unaware of the problem or of the issues related to it. Therefore, it is imperative to provide these individuals with the most relevant information in a manner that best conveys the need for action on their part.

Messages

While the overall message should be the control and eradication of noxious weeds, this will need to be tailored to the target audience to increase understanding and interest. Within this, the message can be broken down to more specific concepts including the identification of species, controlling those species, preventing the introduction and spread of species, and the effects of noxious weeds on the agricultural economy and the environment. These topics could also be broken down further.

The identification, reporting, and management of invasive plant species could be an additional message that closely follows that of noxious weed control. This message might be presented in cooperation with other organizations.

Target Audiences

The target of this message could include all people in the state of Kansas. To narrow this down into approachable groups, and to prioritize the message, the people who have the most to gain by hearing about noxious and invasive weeds would be school-aged children and the farmers and ranchers who are most affected by these species.

Teaching good environmental habits is best done with children while they are receptive to good ideas and before they become set in their ways. They can then carry this message to their parents and encourage the adoption of these values at home.

The incomes of farmers, ranchers, and other large landowners, in a large part, depend on their knowing about noxious and invasive weeds and how to manage them. Directing information, especially on how to identify and control these species, to this group would have a great impact. One subgroup that would benefit most from this message, but is the most difficult to connect with, is the absentee landowners. They are often difficult to identify and even harder to contact. The land they own is usually leased to local residents, but management decisions are reserved by the owner.

Methods

The means by which this message should be relayed to each selected audience is as varied as the audiences themselves and needs to be targeted in the same way as the message is itself. In providing resources with targeted messaging, the message can be further conveyed by a network of partner organizations.

Publications

Outreach publications can include documents such as brochures, fact sheets, posters, and newsletters. This type of outreach is better suited for reaching a general audience through distribution at farm or garden shows, festivals, or wherever large groups of people gather.

Presentations

In-person appearances can be used to relay a more detailed message to a specific audience. Outreach such as this is best used for smaller groups of people with similar interests, and there is a better opportunity for one-on-one interactions before and after the presentation.

Social Media

There is a virtually unlimited audience on the various social media platforms, meaning a message can reach people that would otherwise not have been targeted. While targeted messages can be used in this platform, the message may get lost as they get shared with others, whereas a general message might be better understood by those who ultimately receive the message.

Websites

Both broad and targeted messages could be placed on a website which would allow anyone visiting the site to be able to read and understand. This platform could also be used as a site to store and distribute electronic versions of printed publications and other materials that would be available for use by interested parties.

Media

The general media — such as television, radio, newspapers, or magazines — are used by a wide range of individuals who are not necessarily looking for, or interested in, the message being conveyed. The generalized information shared via general media would have to pique an individual's interest in seeking out a more detailed message.

Educational Materials

Age- and grade-level appropriate materials such as presentations, activities, worksheets, quizzes, puzzles, and games, can be provided to (or presented at) schools and other educational organizations. The messaging may start out generalized and then become more targeted as the students get older.

8. RESEARCH

While the cumulative knowledge of the control of noxious weeds is extensive, there are many other aspects of these species and their management that are lacking in the information necessary to take full advantage of them. Further scientific studies into these fields would provide valuable tools for use in the prevention and management of noxious and invasive weeds. Those fields that need additional research include:

Introduction and Spread

A better understanding of the ways by which plant species are introduced into new environments specific to Kansas would allow landowners, corporations, and agencies in the state to take preemptive measures to prevent further infestations from occurring. The international, interstate, and local movement of materials and products could be managed in such a way as to reduce the possibility of inadvertently transporting invasive plants or plant parts.

Being able to predict how an invasive species infestation spreads within areas in which it has already become established would be vital to land managers in containing established infestations. These actions would help prevent infestations from spreading to new areas while landowners work to eradicate existing populations.

Invasiveness

The development of a model to determine the chances of a particular species becoming invasive in Kansas would allow those who import plants and certain plant products from exotic locations to be selective in their choices. It would also provide consumers with an additional tool for use in deciding which species to plant in their landscapes. This information would also allow land managers to know which species to watch for and to develop control and management tools to protect themselves.

Surveys and Inventories

Each county weed director is required by law to determine the acreage of each noxious weed in the entire county. Developing a survey procedure that would provide a statistically valid estimate of the number of acres of each species of noxious weed in every county would enable the tracking of the noxious weed populations and to plan management activities accordingly.

A key tool in the management of noxious weeds is to be able to locate the infestations that exist in an area of concern. Only after an infestation has been discovered can it be managed. A tool such as this would be of use to both a landowner needing to improve the quality of his or her land, and the county weed departments which need to be able to ensure all the noxious weeds in their jurisdiction are being properly managed.

Mapping

Once the infestations are identified and their sizes determined, a method of mapping those locations would be beneficial to not only the managers of the infested land but the adjoining landowners and others as well. Mapping the infestations over time would provide a way to determine the direction and rate of spread and therefore allow for better management planning.

There are currently various online mapping programs available, but as they were not developed toward any particular location or need, they are often too generalized to provide information specific to any one area. A Kansas-specific mapping tool could offer tools and options that would be of benefit to everyone involved in invasive plant management in the state.

Control and Management

Many control methods have been developed for most of the noxious weeds in Kansas. However, additional integrated management techniques, for perennial weed species especially, will provide for multi-pronged approaches that will increase the chances of long-term success. Cultural, biological, and mechanical methodologies are those most lacking at this time.

Additional options for chemical controls or control methodologies that could reduce or prevent drift, resistance, or crop injury would be greatly beneficial. Effective organic options would also be beneficial to those who prefer to not use synthetic herbicides.

Once these tools have been determined, further work to find out the most efficient way to use them would result in highly effective control efforts. These research results, when shared with those managing the land and regulating the control of noxious weeds, could result in significant reductions in the noxious weed infestations in the state.

As beneficial as past research has been, there continues to be an ongoing need for additional research. Also, while studies of Kansas noxious weeds in Kansas-specific conditions would be the most useful, and there are several institutions that conduct such research, those investigations conducted elsewhere could also be of benefit. Some of the sources of research include:

Sources of Research

Universities

Land grant universities, found in all 50 states, are renowned for their ongoing research and education in agriculture and related fields. Work in similar fields is also being conducted in many other colleges and universities in the state. Likewise, universities throughout the country are conducting valuable research that has been, and will be, of use in the management of noxious weeds in Kansas.

Kansas State University has a strong agriculture and natural resources program. Because of the close interconnection between agriculture and noxious weeds, there are usually many weed-related research projects being conducted at any one time. Professors and scientists within the fields of agronomy, animal sciences, range management, and weed science have been conducting research into the control and management of noxious and invasive weeds.

Research being conducted at the University of Kansas into the development of predictive modeling, survey, and inventory methodologies, and mapping techniques could create breakthroughs in the prevention and control of noxious weed infestations.

Government agencies

In addition to many other aspects of agricultural research, the U.S. Department of Agriculture's Agricultural Research Service conducts studies into plant pests that feed exclusively on those species that have become invasive in this country, including Kansas' noxious weeds. This research will continue to further the use of biological controls as one aspect of a landowner's integrated weed management plan.

APPENDICES

APPENDIX A. FIVE-YEAR MANAGEMENT ACTION PLAN

Funding and Resources	
Objective	Identify potential sources for sustainable funding for state, county, and local education, control, and enforcement programs.
Strategy	Consult with other states to see what types of funding sources they have and see if the same sources are available in Kansas; Contact the various federal agencies to determine if there are any grant opportunities.
Action	Identify and apply for grant funds and work to develop opportunities for long term funding sources within the state.
Involvement	U.S. Fish & Wildlife Service, Kansas Department of Agriculture
Targeted Completion	Ongoing
Performance Measure	Number of grant opportunities found and applied for each year.

Partnerships and Coordination	
Objective	Develop and maintain partnerships between federal, state, county, and local agencies, groups, and organizations to encourage communication and management across jurisdictions and boundaries.
Strategy	Encourage federal, state, county, and local agencies, groups, and organizations to support, cooperate with, and engage in and regional efforts to manage noxious and invasive weeds, early detection and rapid response, and education and outreach efforts.
Action	Develop a variety of noxious and invasive management projects in such a way as to allow participation and cooperation by the disparate agencies, groups, and organizations in Kansas.
Involvement	Kansas Rural Center, USDA Farm Services Administration, Kansas Association of Conservation Districts, U.S. Fish and Wildlife Service, USDA Natural Resources Conservation Service, Friends of the Kaw, County Weed Directors Association of Kansas, Kansas Association of Counties, Kansas Department of Agriculture
Targeted Completion	2 Years (2024)
Performance Measure	The number of agencies, groups, and organizations with internal programs to participate in, or cooperate with, statewide, regional, or local noxious and invasive species projects.

Noxious and Invasive Weed Species	
Objective	Create a method for determining which plant species are invasive in Kansas and ensure the current method for determining which species should be regulated is as efficient as possible.
Strategy	Identify the different characteristics of plants to determine what makes them invasive in Kansas
Action	Develop an index of invasivity for Kansas that can be used to create a list of invasive species and an Invasive Weed Watch List.
Involvement	Fort Riley, County Weed Directors Association of Kansas, Audubon of Kansas, Kansas Association of Counties, Kansas Department of Agriculture, Kansas Biological Survey
Targeted Completion	5 Years (2027)
Performance Measure	Creation and maintenance of a list of invasive species and a statewide Invasive Weed Watch List.

Regulatory Framework	
Objective	Ensure that the state's Noxious Weed Act and Regulations are written as to best encourage weed management and encourage the development of policies, rules, and ordinances at all levels to assist in the enforcement of noxious weed control and eradication.
Strategy	Conduct regular reviews of the existing statutes and regulations; Consult with stakeholders to determine if they have any issues or concerns with the existing; Educate legislators on the need for adequate weed control legislation.
Action	Discuss revision requests with the State Noxious Weed Advisory Committee and Kansas Department of Agriculture's Plant Protection and Weed Control Program.
Involvement	County Weed Directors Association of Kansas, Kansas Department of Agriculture
Targeted Completion	Present revision ideas to the State Noxious Weed Advisory Committee every four years.
Performance Measure	An updated list of revision requests for the state noxious weed statute and regulations.

Prevention, Early Detection and Rapid Response	
Objective	Create and implement processes for identifying potential pathways of introduction and movement, preventing new species from entering the state and quickly responding to any new infestations of invasive plant species.
Strategy	Identify introduction and spread vectors that threaten to introduce new invasive species into Kansas. Determine the most efficient procedure for identifying any newly introduced invasive species and eradicating them from the state as soon as possible.
Action	Develop and implement an early detection and rapid response (EDRR) process, involving surveys, reporting, mapping, control, and monitoring that will ensure that any newly introduced invasive species are detected and eradicated as rapidly as possible. Work to mitigate introduction and spread vectors to prevent new infestations.
Involvement	County Weed Directors Association of Kansas, Kansas Department of Agriculture, Kansas Biological Survey
Targeted Completion	5 Years (2027)
Performance Measure	Development of an EDRR process and reports of implemented and successful efforts.

Noxious Weed Management	
Objective	Develop effective chemical and non-chemical control options for each of the noxious weeds in Kansas and determine the best procedures for implementing those options.
Strategy	Identify the control options, both chemical and non-chemical, that are most effective against each of the statewide and county-option noxious weeds, as well as those invasive species on the Watch List. Include the best control windows throughout the year.
Action	Encourage and promote the use of multiple integrated weed management methods in noxious and invasive weed management programs.
Involvement	Kansas Rural Center, Fort Riley, Kansas Association of Conservation Districts, County Weed Directors Association of Kansas, Kansas Department of Agriculture
Targeted Completion	2 Years (2024)
Performance Measure	A revised list of recommended integrated weed management control options for each of the noxious, county-option noxious, and watch weeds.

Monitoring and Restoration	
Objective	Develop means and methods for assessing the effectiveness of control operations and in the recovery of areas damaged by noxious and invasive weed infestations.
Strategy	Encourage land managers to survey the sites of weed control projects to determine the effectiveness of the control method and to conduct retreatments, if necessary. Restore areas of controlled weed infestations, as necessary, to prevent re-infestation and to return the area to pre-infestation species compositions.
Action	Develop monitoring standards and procedures to determine and ensure the effectiveness of treatments and identify the need for retreatments. Develop regional restoration guidelines for noxious weed control sites.
Involvement	County Weed Directors Association of Kansas, Audubon of Kansas, Kansas Department of Agriculture
Targeted Completion	3 Years (2025)
Performance Measure	Development of standards, procedures, and guidelines and reporting on implemented monitoring and restoration efforts.

Surveys and Mapping	
Objective	Develop and implement a scientifically valid method for identifying the location and extent of infestations of noxious and invasive weeds throughout Kansas.
Strategy	Determine a statistically valid method for surveying each county that will not impose an unreasonable work load on the county weed departments.
Action	Develop a protocol for conducting county-wide noxious weed surveys to be performed annually by the county weed department.
Involvement	Kansas State University, County Weed Directors Association of Kansas, Kansas Department of Agriculture, Kansas Biological Survey
Targeted Completion	3 Years (2025)
Performance Measure	A verifiable estimate of weed acreages reported by each county, resulting in a statewide population for each noxious weed species.

APPENDIX B. REGULATORY DOCUMENTS

Kansas Noxious Weed Act

KANSAS STATUTES ANNOTATED
Chapter 2. – AGRICULTURE
Article 13. – WEEDS

10/1/2018

2-1313a. Definitions.

(a) The provisions of article 13 of chapter 2 of the Kansas Statutes Annotated, and amendments thereto, and K.S.A. 2018 Supp. 2-1313a, 2-1314c, 2-1314d and 2-1319a, and amendments thereto, shall be known and may be cited as the noxious weed act.

(b) For the purposes of this act:

(1) "Act" means the noxious weed act;

(2) "certified weed free" means any unprocessed plant product that has been inspected by authorized state officials and found to be free of the reproductive parts of noxious and invasive weeds according to standards set forth by the North American invasive species management association;

(3) "control" means the removal or destruction of the reproductive parts of any noxious weeds before such weeds propagate and spread or whenever required by the secretary or the weed supervisor;

(4) "governing body" means the board, body or persons in which the powers of a political subdivision as a corporate body are vested;

(5) "governmental agency" means the state or any agency or political subdivision thereof or the government of the United States or any agency or instrumentality thereof;

(6) "noxious weed" means any species of plant that the secretary shall declare to be a noxious weed in rules and regulations adopted and promulgated pursuant to this act;

(7) "noxious weed plant material" means any noxious weed plant or plant part that is capable of reproducing sexually or asexually;

(8) "person" means an individual, associations of persons, companies, corporations, the secretary of transportation, boards of county commissioners, township boards, school boards, drainage boards, governing bodies of cities, railroad companies and other transportation companies or corporations or their authorized agents and those supervising state-owned lands;

(9) "political subdivision" means any agency or unit of the state authorized to levy taxes or empowered to cause taxes to be levied;

(10) "secretary" means the secretary of agriculture or the secretary's designated representative;

(11) "state advisory committee" means the state noxious weed advisory committee consisting of 13 voting members and the secretary; and

(12) "weed supervisor" means a person hired by a county, township, city or district and approved by the secretary to enforce the noxious weed act and to control and manage noxious weeds within the supervisor's jurisdiction.

2-1314. Declaring plants as noxious weeds; control and eradication.
(a) The secretary shall adopt rules and regulations to declare species of plants as noxious weeds in the state. Once a species of plant has been declared to be a noxious weed, it shall be considered a noxious weed in every county of the state. The secretary shall not declare any species of plant to be a noxious weed without the recommendation of the state advisory committee, except under an emergency declaration as provided in K.S.A. 2018 Supp. 2-1314c, and amendments thereto. It shall be the duty of persons to control the spread of and to eradicate all species of plants declared to be noxious weeds on all lands owned or supervised by them and to use such official methods for the control and eradication, and at such times as are approved and adopted by the secretary.
(b) The following species of plants shall be considered noxious weeds: Kudzu (Pueraria lobata), field bindweed (Convolvulus arvensis), Russian knapweed (Centaurea repens), hoary cress (Cardaria draba), Canada thistle (Cirsium arvense), quackgrass (Agropyron repens), leafy spurge (Euphorbia esula), bur ragweed (Ambrosia grayii), pignut (Hoffmannseggia densiflora), musk (nodding) thistle (Carduus nutans L.), Johnson grass (Sorghum halepense) and sericea lespedeza (Lespedeza cuneata). The provisions of this subsection shall expire on December 31, 2020.
(c) Prior to adopting rules and regulations declaring species of plants noxious weeds in the state, the secretary shall prepare a report discussing the proposed changes to the official list of noxious weeds promulgated by the secretary. The report shall include information regarding the secretary's proposed addition of any noxious weeds to the official list and the secretary's proposed removal of any noxious weeds from the official list. The secretary shall submit such report to the legislature prior to adopting rules and regulations declaring species of plants noxious weeds in the state.
(d) (1) In addition to those species of plants declared as noxious weeds pursuant to this act, a board of county commissioners may, with the approval of the secretary, publish a list of the species of plants to be controlled in the county. Any species of plant so listed shall be considered a noxious weed within the boundaries of that county.
(2) The board of county commissioners shall, for any species of plant to be listed as provided in this section that previously has not been listed by another county, submit to the secretary for approval official methods for the control and eradication of such species of plant. Any county subsequently listing the same species of plant shall adopt the official methods for the control and eradication of that species of plant as approved by the secretary or submit additional control methods to the secretary for approval. If the secretary approves the additional control methods, such methods shall be made part of the official control methods available to all counties.
(3) If any species of plant listed by a board of county commissioners of any county is later declared a noxious weed by rules and regulations adopted by the secretary, the official methods for the control and eradication adopted by the secretary for the control and eradication of such species of plant pursuant to K.S.A. 2-1315, and amendments thereto, shall control over any methods previously adopted by the board of county commissioners.
(4) Chemical materials shall be made available in accordance with K.S.A. 2-1322, and amendments thereto, for the control and eradication of any species of plant listed by a board of county commissioners and approved by the secretary pursuant to this subsection.

2-1314b. Noxious weeds; declaration of multiflora rose, bull thistle as noxious authorized.
(a) The board of county commissioners of any county may declare the multiflora rose (Rosa multiflora) or the bull thistle (Cirsium vulgare), or both, to be a noxious weed within the boundaries of such county. In such event, all of the provisions of article 13 of chapter 2 of the Kansas Statutes Annotated, and amendments thereto, that pertain to the control and eradication of noxious weeds shall apply to the control and eradication of the multiflora rose or the bull thistle, or both, within any such county.
(b) If the board of county commissioners of any county does not declare the multiflora rose or the bull thistle, or both, to be a noxious weed within the boundaries of such county, a petition requesting the secretary of agriculture to declare the multiflora rose or the bull thistle, or both, to be a noxious weed within the boundaries of such county, signed by not less than 5% of the qualified electors of the county, may be filed with the county election officer of the county. Upon receipt of any such petition, the county election officer shall certify the sufficiency of the petition and submit it to the secretary of agriculture. Thereupon, the secretary of agriculture may declare the multiflora rose or the bull thistle, or both, to be a noxious weed within the boundaries of such county. In such event, all of the provisions of article 13 of chapter 2 of the Kansas Statutes Annotated, and amendments thereto, that pertain to the control and eradication of noxious weeds shall apply to the control and eradication of the multiflora rose or the bull thistle, or both, within any such county.
(c) The provisions of this section shall expire on December 1 [31], 2020.

2-1314c. Emergency declarations of noxious weeds.
(a) The secretary may, by order, make an emergency declaration of noxious weeds if:
(1) A new and potentially harmful species of plant is discovered growing in the state and is verified by the secretary; or
(2) the state is facing a potential influx of harmful species of plant as the result of a natural disaster.
(b) Once a species of plant has been declared a noxious weed under this section, the secretary shall consider such species of plant noxious as provided in K.S.A. 2-1314, and amendments thereto, and take every action and use any means available to control or eradicate such noxious weed as authorized in this act.
(c) The secretary shall not make an emergency declaration for the same species of plant more than once in a five-year period without the recommendation of the state advisory committee.
(d) The emergency declaration of a noxious weed shall remain in effect for the earlier of 18 months, until action can be taken by the secretary to declare the species of plant a noxious weed by rules and regulations, or until the secretary rescinds the emergency declaration.

2-1314d. State noxious weed advisory committee; organization; duties.
(a) There is hereby created the state noxious weed advisory committee, referred to in this act as the state advisory committee. The state advisory committee shall consist of 13 voting members and the secretary as a non-voting ex officio member. The state advisory committee membership shall reflect the different geographic areas of the state equally to the greatest extent possible. Members of the state advisory committee shall

receive no compensation for serving on the state advisory committee, but shall be paid subsistence allowances, mileage and other expenses as provided in K.S.A. 75-3223, and amendments thereto, from moneys appropriated therefor to the Kansas department of agriculture. The 13 voting members shall be appointed by the secretary as follows:
(1) One member shall be a natural resource management professional from the Kansas department of wildlife, parks and tourism;
(2) two members shall be weed specialists from Kansas state university college of agriculture or Kansas state research and extension, with one such member having knowledge of non-chemical methods of weed control, and shall be appointed upon the recommendation of the dean of the college of agriculture and the director of Kansas state research and extension;
(3) one member shall be a county commissioner and shall be appointed upon the recommendation of the Kansas association of counties;
(4) four members shall be private landowners involved in agricultural production, one of whom shall be a Kansas producer who grows traditional Kansas crops, which, for the purposes of this paragraph, means wheat, corn, soybeans, milo, peanuts, cotton, hay or oats, one of whom shall be a Kansas producer who grows non-traditional Kansas crops, and one of whom shall be a certified organic producer;
(5) two members shall be weed supervisors and shall be appointed upon the recommendation of the board of directors of the county weed director's association of Kansas;
(6) one member shall represent the agricultural industries in the state and shall be appointed upon the recommendation of the board of directors of the Kansas agribusiness retailers association;
(7) one member shall be appointed upon the recommendation of the Kansas biological survey; and
(8) one member shall be appointed upon the recommendation of the board of directors of the Kansas cooperative council.
(b) (1) Except as provided in this section, the term of office of each member of the committee shall be four years. The initial appointments to the committee shall be as follows:
(A) Six members shall be appointed for a term of two years;
(B) four members shall be appointed for a term of three years; and
(C) three members shall be appointed for a term of four years.
(2) The secretary shall designate the initial term of office for each member appointed to the first committee.
(3) Each member shall be limited to serving a total of two full terms and shall hold office until the expiration of the term for which such member is appointed or until a successor has been duly appointed.
(4) In the event of a vacancy on the state advisory committee, the recommending body of the vacating member shall make a recommendation to the secretary as prescribed in this section. The secretary shall, as soon as is reasonably possible, appoint a member to fill such vacancy for the remainder of the unexpired term.
(5) The secretary may remove any member of the state advisory committee for misconduct, incompetence or neglect of duty.
(c) (1) A quorum of the state advisory committee shall be a majority of the members duly appointed to the state advisory committee.

(2) A quorum of the state advisory committee shall elect or appoint annually a chairperson and a vice-chairperson.
(d) The state advisory committee shall meet at least once per year, but not more than four times per year.
(e) The state advisory committee shall, among other duties assigned by the secretary:
(1) Review the state weed management plan every five years and recommend changes and updates to the secretary;
(2) recommend the designation and classification of noxious weeds in the state through the use of a risk assessment designated by the secretary;
(3) review the noxious weed act and the rules and regulations of the secretary declaring species of plants to be noxious weeds at least every four years and recommend changes to the secretary;
(4) review the official methods for the control and eradication for each species of plant declared a noxious weed and recommend changes to the secretary that include both chemical and non-chemical options for such control and eradication; and
(5) before January 1 of each odd-numbered year, report to the secretary on:
(A) The expenditure of state funds on noxious weed control and how such funds were spent;
(B) the status of the state and county noxious weed control programs;
(C) recommendations for the continued best use of state funds for noxious weed control; and
(D) recommendations on long-term noxious weed control needs.
(f) The state advisory committee shall only make recommendations approved by a majority vote of the members.

2-1315. Adoption of official methods for the control of noxious weeds; control districts; duties of secretary; cooperation of secretary, county agents and weed supervisors; rules and regulations.
(a) The secretary is hereby empowered to:
(1) Establish and adopt official methods for the control and eradication of noxious weeds and to publish such methods;
(2) adopt such rules and regulations as in the secretary's judgment are necessary to carry out the provisions of this act; and
(3) alter or suspend such rules and regulations when necessary.
(b) The secretary may establish not to exceed five noxious weed control districts within this state and define the boundaries of such districts. Such districts shall be established to provide for the most efficient control and eradication of noxious weeds and for the most economical supervision by the state.
(c) The secretary may consult, advise or render assistance to weed supervisors as to the best and most practical methods of noxious weed control and eradication. It shall be the duty of the county agricultural agent to cooperate with and assist the weed supervisors in an intensive educational program on weed control. The secretary is hereby authorized to enter into agreements with any agencies of the federal government for cooperation in the control and eradication of noxious weeds in Kansas in keeping with the provisions of this act.

2-1316. Responsibility for enforcement; weed supervisors; duties; salary; annual surveys, progress report and submission of a prospective management plan.

(a) The responsibility for the enforcement of the provisions of this act shall be vested in the board of county commissioners as to all lands within the boundaries of such county, unless otherwise provided for. Cities and townships may enter into an agreement with the board of county commissioners to take upon themselves the responsibility of the enforcement of the provisions of this act. If, at any time, a board of county commissioners determines that a city or township within the boundaries of the county that has taken upon itself the responsibility of the enforcement of the provisions of this act is unable or unwilling to fulfill those responsibilities, the board of county commissioners may revoke the agreement and resume the responsibility for the enforcement of the provisions of this act.

(b) The board of county commissioners of each county shall, and the governing body of any incorporated city, township board, or any group of counties or cities may, employ with the approval of the secretary, a county, township, city or district weed supervisor.

(c) The weed supervisor shall:

(1) Consult and cooperate with the secretary in all matters pertaining to the best and most practical methods for noxious weed control and eradication;

(2) render every possible assistance and direction for the most effective control and eradication of noxious weeds within the weed supervisor's jurisdiction;

(3) investigate or aid in the investigation and prosecution of any violation of this act and report violations of which the weed supervisor has knowledge to the county attorney; and

(4) before applying any chemical control of noxious weeds to any public or private lands, determine if such lands or adjacent lands are registered on the registry or registries identified by the secretary to provide location information about organic, sensitive or specialty crops.

(d) The salary of the county weed supervisor shall be paid out of the county noxious weed fund or, if the noxious weed program is funded primarily through county general funds, the salary shall be paid from the county general funds, prorated as may be decided at the time of such employment by the governing body or bodies employing such supervisor. If the noxious weed program is funded from more than one source, the salary shall be paid from each source in proportion to its contribution to the noxious weed program.

(e) The weed supervisor shall make annual surveys of noxious weed infestations and ascertain the approximate amount of land and highway or any kind of right-of-way infested with each kind of noxious weed and its location in the county not later than October 31 of each year. The weed supervisor shall compile data on areas eradicated and under treatment and any other data the secretary may deem necessary and submit, by March 15 of each year, an annual weed eradication progress report for the preceding calendar year to the board of county commissioners for their approval and then to the secretary for review. By March 15 of each year, the weed supervisor shall prepare and submit a management plan for the coming year to the board of county commissioners for approval and to the secretary for review.

2-1317. Weed supervisors, cooperation with certain entities.
The secretary and the weed supervisor shall confer, at such time or times as seems necessary and advisable, with the secretary of transportation, boards of county commissioners, township boards, school boards, drainage boards, governing bodies of cities, railroad companies and other transportation companies or other corporations, or their authorized agents, and those supervising state-owned lands, as to the extent of noxious weed infestation on their lands, and the control methods deemed best suited to the control and eradication of each kind of noxious weeds within their respective jurisdictions.

2-1318. Tax levies by counties, townships and cities; budgeting through township or city general operating fund; use of proceeds; retention of records.
(a) On the basis of the annual surveys of infestation required by K.S.A. 2-1316, and amendments thereto, the tax levying body of each county, township or incorporated city shall either make a tax levy each year for the purpose of paying the cost of control and eradication thereof as provided in this act or set aside a portion of the county general fund equivalent to the budget of the noxious weed program. In the case of cities and counties, a portion of the lax [tax] levy may be used to pay a portion of the principal and interest on bonds issued under the authority of K.S.A. 12-1774, and amendments thereto, by cities located in the county. Each county, city, and township, separately, shall make a levy each year for such purpose. Any township or city may budget expenditures for noxious weed control within its general operating fund in lieu of levying a special tax therefor or maintaining a separate noxious weed eradication fund. Moneys collected from such levy, except for an amount to pay a portion of the principal and interest on bonds issued under the authority of K.S.A. 12-1774, and amendments thereto, by cities located in the county, shall be set apart as a noxious weed eradication fund and warrants duly verified by the weed supervisor or city supervisor, if such is employed, or, if no such supervisor is employed, then by the county, township or city clerk, as the case may be, may be drawn against this fund for all items of expense incident to control of noxious weeds in such jurisdiction respectively. Any moneys remaining in the noxious weed eradication fund at the end of any year for which a levy is made under this section shall either be transferred to the noxious weed capital outlay fund for making of capital expenditures incident to the control of noxious weeds or remain in the noxious weed eradication fund for use in the next year.
(b) All records relating to funds received into and spent from both the noxious weed eradication fund and the noxious weed capital outlay fund shall be retained by the county for at least five years and shall be made available to the secretary upon request.

2-1319. State political subdivision land; control and eradication of noxious weeds; failure by political subdivision to control; payment of costs.
(a)(1) The cost of controlling and eradicating noxious weeds on all lands or right-of-ways owned or supervised by a state agency, department or commission shall be paid by the state agency, department or commission supervising such lands or right-of-ways from funds appropriated to its use; on county lands and county right-of-ways, on township lands and township right-of-ways, on city lands and right-of-ways by the county, township or city in which such lands and right-of-ways are located, and from

funds made available for that purpose; on drainage districts, irrigation districts, cemetery associations and other political subdivisions of the state, the costs shall be paid from their respective funds made available for the purpose.
(2) If the governing body of any political subdivision owning or supervising lands infested with noxious weeds within their jurisdiction fails to control such noxious weeds, the county shall provide 15 days' notice to the political subdivision directing such political subdivision to submit a plan and timeline for controlling such noxious weeds to the board of county commissioners or control such noxious weeds. If the plan and timeline is deemed unacceptable, the board of county commissioners shall notify the political subdivision of requested changes to its plan and timeline required for the board of county commissioners to approve such plan and timeline. If the political subdivision fails to control such noxious weeds or fails to submit an accepted plan and timeline within such 15 days' notice, the board of county commissioners shall proceed to have official methods for the control and eradication used upon such lands, and shall notify the governing body of the political subdivision by certified mail of the costs of such operations, with a demand for payment. The governing body of the political subdivision shall pay such costs from its noxious weed fund, or if no such fund is available, from its general fund or from any other funds available for such purpose. A copy of the statement, together with proof of notification, shall at the same time be filed with the county clerk, and if the amount is not paid within 30 days, such clerk shall spread the amount upon the tax roll of the political subdivision, and such amount shall become a lien against the entire territory located within the particular political subdivision, and shall be collected as other taxes are collected.
(b) All moneys collected pursuant to this section shall be paid into the county noxious weed eradication fund, or if the noxious weed program is funded primarily through the county general fund, such moneys shall be paid into the county general fund. If the noxious weed program is funded from more than one source, all moneys collected pursuant to this section shall be paid into each source in proportion to its contribution to the noxious weed program.

2-1319a. Certification of forage, straw or mulch carried onto state land as weed free.
Any and all alfalfa, grass, hay or other forage, straw or mulch carried onto or used for any purpose within the boundaries of any lands owned or managed by the state and its agencies must be certified weed free.

2-1320. Unpaid costs of labor or material; itemized statement and notice to owner; penalties and interest; liens; copy of notice to register of deeds and county or city clerk; lien payable upon sale or transfer of ownership.
In case the weed supervisor enters upon land or furnishes weed control materials pursuant to a contract or an agreement with an owner, operator or supervising agent of noxious weed infested land for the control of such noxious weeds and, as a result of such weed control methods, there are any unpaid accounts outstanding by December 31 of each year, the board of county commissioners or governing body of the city shall immediately notify or cause to be notified, such owner with an itemized statement as to the cost of material, labor and use of equipment and further stating that if the amount of such statement is not paid to the county or city treasurer wherein such real estate is

located within 30 days from the date of such notice, a penalty charge of 10% of the amount remaining unpaid shall be added to the account and the total amount thereof shall become a lien upon such real estate. The unpaid balance of such account and such penalty charge shall draw interest from the date of entering into such contract at the rate prescribed for delinquent taxes pursuant to K.S.A. 79-2004, and amendments thereto. A copy of the statement, together with proof of notification, shall at the same time be filed with the register of deeds in such county and the county or city clerk, as the case may be, and if such amount is not paid within the next 30 days the county or city clerk, as the case may be, shall spread the amount of such statement upon the tax roll prepared by the clerk and such amount shall become a lien against the entire contiguous tract of land owned by such person or persons of which the portion so treated is all or a part, and shall be collected as other taxes are collected, and all moneys so collected shall be paid into the noxious weed eradication fund or, if the noxious weed program is funded primarily through the county general fund, such moneys shall be paid into the county general fund. If the noxious weed program is funded from more than one source, all moneys collected pursuant to this section shall be paid into each source in proportion to its contribution to the noxious weed program. If any land subject to a lien imposed under this section is sold or transferred, the entire remaining unpaid balance of such account plus any accrued interest and penalties shall become due and payable prior to the sale or transfer of ownership of the property, and upon collection shall be paid to the noxious weed eradication fund or, if the noxious weed program is funded primarily through the county general fund, such moneys shall be paid into the county general fund. If the noxious weed program is funded from more than one source, all moneys collected pursuant to this section shall be paid into each source in proportion to its contribution to the noxious weed program.

2-1321. Filing of protests; hearings; appeals.
If any person shall be dissatisfied with the charge made for material or rent of equipment used in the control and eradication of noxious weeds, said person shall, within ten days from the mailing of the account showing such charge, file a protest with the board of county commissioners, who shall hold a hearing thereon and shall have the power to either adjust or affirm such charge. If any person shall be dissatisfied with the decision rendered by the board of county commissioners said person shall within thirty days file a written notice of appeal with the clerk of the district court of the county and thereupon an action shall be docketed in the district court and be tried the same as other actions. Upon the final determination of any change in the account, if any, the county or city clerk shall correct the records in his or her office in accordance therewith.

2-1322. Purchase and use of equipment and chemicals; sale of chemicals, price; charges for use of machinery and equipment; record of purchases, sales and charges.
(a) The board of county commissioners, or the governing body of incorporated cities, cooperating with the secretary, shall purchase or provide for needed and necessary equipment and necessary chemical materials for the control and eradication of noxious weeds. The board of county commissioners of any county or the governing body of any city may use any equipment or apply any chemical materials purchased as provided for in this section, upon the right-of-ways and county-owned or managed property, for the

treatment and eradication of species of plants that have not been declared noxious weeds.
(b) Except as provided in K.S.A. 2-1333, and amendments thereto, the board of county commissioners shall sell chemical materials to the landowners in its jurisdiction who have been assessed a tax by the county at a price fixed by the board of county commissioners in an amount equal to not less than 50% nor more than 75% of the total cost incurred by the county in purchasing, storing and handling such chemical materials used in the control and eradication of noxious weeds, and may make such charge for the use of machines or other equipment and operators as may be deemed by the board of country [county] commissioners sufficient to cover the actual cost of operation. However, once the tax levying body of a county, city or township has appropriated a budget equivalent to 1.5 mills or more, the board of county commissioners may collect from the landowners in their jurisdiction an amount equal to 75% but not more than 100% of the total cost incurred by the county in purchasing, storing and handling of chemical materials used in the control and eradication of noxious weeds.
(c) The board of county commissioners of a county that funds its noxious weed program from the county general fund shall sell chemical materials to the landowners in its jurisdiction who have been assessed a tax by the county at a price fixed by the board of county commissioners in an amount equal to not less than 50% nor more than 75% of the total cost incurred by the county in purchasing, storing and handling such chemical materials used in the control and eradication of noxious weeds, and may make such charge for the use of machines or other equipment and the operators as may be deemed by the board of county commissioners sufficient to cover the actual cost of operation. However, once the tax levying body of a county, city or township has appropriated a budget equivalent to 1.5 mills or more, the board of county commissioners may collect from the landowners in its jurisdiction an amount equal to 75% but not more than 100% of the total cost incurred by the county in purchasing, storing and handling of chemical materials used in the control and eradication of noxious weeds.
(d) Whenever official methods for the control and eradication of noxious weeds adopted by the secretary are not used in applying the chemical materials purchased, the board of county commissioners may collect the remaining portion of the total cost thereof from the landowner.
(e) The board of county commissioners, township boards, and the governing body of cities shall keep a record showing purchases of chemical materials and equipment for the control and eradication of noxious weeds. The board of county commissioners and the governing body of cities shall also keep a complete itemized record showing sales for cash or charge sales of chemical materials and shall maintain a record of charges and receipts for use of equipment owned by each county or city on public and private land. Such records shall be open to inspection by citizens of Kansas at all times.
(f) All moneys collected from the sales of chemical materials and the charges for the use of machines shall be deposited into the noxious weed eradication fund or, if the noxious weed program is funded primarily through the county general fund, such moneys shall be paid into the county general fund. If the noxious weed program is funded from more than one source, all moneys collected pursuant to this section shall be paid into each source in proportion to its contribution to the noxious weed program for the purpose of paying for the purchase of additional chemical materials as provided in this section and for the cost of the control and eradication of noxious weeds as provided in this act.

2-1323. Penalty for violations.
Any person, association of persons, corporation, county or city or other official who shall violate or fail to comply with any of the provisions of this act or the rules and regulations adopted pursuant to this act shall be deemed guilty of a class C nonperson misdemeanor and, upon conviction, shall be punished by a fine of $100 per day for each day of noncompliance up to a maximum fine of $1,500.

2-1324. Invalidity of part.
Should it be decided upon final judicial hearing that any section or clause of this act is invalid such decision shall only apply to the section or clause so found to be invalid and shall not invalidate the entire act.

2-1325. Unlawful acts; disposal of screenings and materials.
It shall be unlawful for any person, company or corporation to sell, offer for sale, barter, give away or otherwise dispose of any screening or offal material containing seeds of weeds mentioned in K.S.A. 2-1314 unless such screenings and materials shall first have been processed by grinding or other adequate means, and the viability of all such weed seeds therein destroyed provided, unprocessed screenings or offal materials may be sold to a commercial processor or commercial feed mixer for processing.

2-1326. Same; disposal of infested plants, materials or fertilizers.
It shall be unlawful for any person, company or corporation to sell, barter or give away nursery stock, plants, packing materials, animal fertilizer and soil or sod for landscaping or fertilizer uses which contains or is infested with noxious weed plant material or seeds.

2-1327. Same; harvesting and other machines; labeling.
It shall be unlawful for any person, company or corporation to (1) bring any harvesting or threshing machinery, portable feed grinders, portable seed cleaners, or field ensilage cutters or other farm vehicles or machinery into the state without first cleaning such equipment free from all weed seed and litter, or (2) to move any harvesting or threshing machines, portable feed grinders, portable seed cleaners or field ensilage cutters from any field or farm infested with any noxious weed without first cleaning such equipment free from all weed seed and litter. Each such machine operated by a person doing work for another shall be labeled with an appropriate label on a form provided by the secretary of agriculture containing this section of the law.

2-1328. Same; infested livestock feed material.
It shall be unlawful for any person, company or corporation to sell or offer for sale, barter or give away any livestock feed material which is infested with seeds of noxious weeds unless such feed material shall first have been processed and the viability of all noxious weed seeds present therein destroyed, except such feeds (1) may be sold for consumption on the same farm where grown or (2) may be sold to commercial processors or commercial feed mixers.

2-1329. Same; unprocessed livestock feed.
It shall be unlawful for any person, company or corporation to feed to livestock, except on the premises where grown or when purchased from a grower or dealer within the state, any grains, crops or other material containing the seeds of noxious weeds, without first having processed same as to destroy the viability of all such weed seeds.

2-1330. Entry upon and inspection of property.
(a) Subject to subsection (b), the boards of county commissioners, township boards, state and city officials, weed supervisors or any city, township, county or state employee so authorized shall have at all reasonable times, free access to enter upon such premises, without interference or obstruction to inspect property, both real and personal, regardless of location, in connection with the administration of this act. Entry upon such premises in accordance with this act shall not be deemed a trespass.
(b) Any individual conducting an inspection pursuant to subsection (a) upon private property shall, before or immediately upon entering any such premises:
(1) Attempt to notify, if practicable, the owner, operator or lessee of the premises of the purpose for the inspection; and
(2) allow any such present and notified owner, operator or lessee of the premises, or any representative thereof, to accompany the individual conducting the inspection.

2-1331. Notification of owner of lands infested with noxious weeds; inspection; initial general or official notice; subsequent legal notice.
(a) When a weed supervisor has knowledge that any land in the weed supervisor's jurisdiction is infested, in any current year, with any noxious weed, the weed supervisor shall give notice, by publication of a general notice in the official county newspaper pursuant to subsection (b) or an official notice by mail, of such infestation to the person, association of persons, governmental agency, corporation or agent thereof, that owns the land. In the event the land is under the control or supervision of an operator or supervising agent, the notice shall also be mailed to the operator or supervising agent. Such notice shall contain the official methods adopted by the secretary for the control and eradication of the noxious weeds that the weed supervisor found on the land and shall also contain a specified time within which the owner, operator or supervising agent shall complete the required treatment for the control or eradication of any such noxious weed.
(b) On or before April 1 of each year, the county weed supervisor may publish in the official county newspaper the general notice of noxious weed infestation, which shall remain in effect until March 31 of the following year. The cost of such publication shall be paid from the noxious weed eradication fund or, if the noxious weed program is funded primarily through the county general fund, the cost shall be paid from the county general fund. If the noxious weed program is funded from more than once [one] source, the cost shall be paid from each source in proportion to its contribution to the noxious weed program.
(c) If an inspection by the weed supervisor, made on or after the completion date stated in the official notice prescribed under subsection (a) or publication of the general notice under subsection (b), reveals satisfactory treatment progress has not been made, the weed supervisor may send, by certified mail, to the owner and to the operator or

supervising agent of the noxious weed infested land, a legal notice as described in subsection (e).
(d) In the event the weed supervisor determines that musk thistle plants that are found on land in the weed supervisor's jurisdiction have reached a stage of maturity where the official methods for control and eradication would not give satisfactory results, the supervisor may give legal notice requiring fall treatment to be performed in the current year. The provisions of this subsection shall expire on December 31, 2020.
(e) The secretary shall adopt rules and regulations establishing requirements for the legal notice to be given to the owner and to the operator or supervising agent of any noxious weed infested land.
(f) Prior to issuing any legal notice pursuant to subsection (c) or (d), the weed supervisor shall notify the owner, operator or supervising agent by telephone call, personal contact, first class mail or by electronic means of the noxious weed infestation.

2-1332. Notice of the costs of treatment; itemized statement, contents; filing with register of deeds and county clerk; payment plans; liens, payable on sale or transfer of ownership.
In the event the weed supervisor enters or causes entry upon land to control any noxious weed infestation, after service of legal notice, such supervisor shall immediately, after completion of the control operation, notify or cause to be notified, by certified mail, the owner of such land with an itemized statement of the costs of treatment. Such costs of treatment shall include the total cost of chemical materials, labor and use of equipment. Such statement shall include a penalty charge of 10% of the total amount of treatment costs. The unpaid balance of any such treatment costs including such penalty charge shall draw interest from the date of treatment at the rate prescribed for delinquent taxes pursuant to K.S.A. 79-2004, and amendments thereto. A copy of such statement, together with proof of notification, shall at the same time be filed with the register of deeds in such county and the county clerk, and if such amount is not paid within 30 days from the date of mailing of such notice, the county clerk shall record the amount of such statement upon the tax roll prepared by such county clerk and such amount shall become a lien against the entire contiguous tract of land owned by such person or persons of which the portion so treated is all or a part, and shall be collected as other taxes are collected and all moneys so collected shall be paid into the noxious weed eradication fund or, if the noxious weed program is funded primarily through the county general fund, such moneys shall be paid into the county general fund. If the noxious weed program is funded from more than one source, all moneys collected pursuant to this section shall be paid into each source in proportion to its contribution to the noxious weed program, except that not more than 25% of the cost of treating the portion of the entire contiguous tract of land so treated, as described and defined in the legal notice as provided in K.S.A. 2-1331, and amendments thereto, shall be recorded on the tax rolls against such land in any one year. The board of county commissioners may, after discussion with the landowner in question, develop a payment plan for the payment of the full amount of the lien over time. If, for any reason, the landowner should fail to fulfill the terms of such agreement, the board of county commissioners may collect the remainder of the amount owed as provided in K.S.A. 2-1320, and amendments thereto. All moneys collected through a payment plan shall be deposited with the county treasurer for credit to the county noxious weed eradication fund or, if

the noxious weed program is funded primarily through the county general fund, such moneys shall be paid into the county general fund. If the noxious weed program is funded from more than one source, all moneys collected pursuant to this section shall be paid into each source in proportion to its contribution to the noxious weed program. If any land subject to a lien imposed under this section is sold or transferred, the entire remaining unpaid balance of such account plus any accrued interest and penalties shall become due and payable prior to the sale or transfer of ownership of the property, and upon collection shall be paid to the noxious weed eradication fund or, if the noxious weed program is funded primarily through the county general fund, such moneys shall be paid into the county general fund. If the noxious weed program is funded from more than one source, all moneys collected pursuant to this section shall be paid into each source in proportion to its contribution to the noxious weed program.

2-1333. County option for discount program to control noxious weeds; petition to establish program, election and procedures.

(a) The board of county commissioners may adopt a resolution to authorize the establishment of a program to provide chemical materials used in the control and eradication of noxious weeds to landowners through chemical dealers on a discount basis.

(b) If such program is authorized, the county weed supervisor shall issue discount certificates, prior to the chemicals being purchased from the chemical dealers, to the landowners. Such certificate shall be taken to a chemical dealer and be presented for the purchase of the chemical material. The chemical dealer shall issue an invoice showing the credit amount of the discount certificate. The dealer shall send the certificate and a copy of the invoice to the county weed supervisor. The certificates and invoices shall be turned over to the board of county commissioners, and no more than the stated amount on the certificate shall be reimbursed to the chemical dealers. The discount certificates shall be paid from the noxious weed fund.

(c) If such program is authorized, on January 1 of each year, the board of county commissioners shall determine the amount of money that may be used from the noxious weed fund to provide for the control and eradication of noxious weeds on privately owned land. The board shall state the dollar amount the county shall pay per unit for the purchase of chemical materials used on privately owned lands. Whenever official methods of eradication, adopted by the secretary of agriculture, are not followed in applying the chemical materials, the board of county commissioners may refuse to pay the discount certificate and the total cost shall be paid by the private landowner.

(d) (1) If a board of county commissioners does not issue discount certificates as provided in subsection (b), a petition to submit a proposition calling for an election to establish the program to provide chemical materials used in the control and eradication of noxious weeds to landowners through chemical dealers on a discount basis may be filed with the county election officer. Such petition shall be signed by qualified voters of the county equal in number to not less than 5% of the voters of the county who voted for the office of secretary of state at the last preceding general election at which such officer was elected.

(2) Upon the submission of a valid petition calling for an election pursuant to this subsection, the county election officer shall submit the question of whether the program as provided in this section shall be established in such county at the next state or

county-wide regular or special election which occurs more than 60 days after the petition is filed with the county election officer.
(3) If a majority of the votes cast and counted are in opposition to establishing the program as provided in this section in such county, the county election officer shall transmit a copy of the result to the secretary of state who shall publish in the Kansas register the result of such election and the program as provided in this section shall not be established in such county.
(4) If a majority of the votes cast and counted are in favor of the proposition, the county election officer shall transmit a copy of the results to the secretary of state who shall publish in the Kansas register the result of such election and that the program as provided in this section shall be established in such county within 18 months.
(5) The election provided for by this section shall be conducted, and the votes counted and canvassed, in the manner provided by law for question submitted elections of the county, except that the county election officer shall publish in the official county newspaper a notice of such election once each week for two consecutive weeks, the first publication to be not less than 21 days before the election, and such notice shall state the date and time of the election and the proposition that will appear on the ballot.

Kansas Noxious Weed Regulations

KANSAS ADMINISTRATIVE REGULATIONS
Article 8.—NOXIOUS WEEDS

4-8-13. Service of notices and statements.

(a) Service of notices and statements required by K.S.A. 2-1320, and amendments thereto, shall be deemed sufficient when made upon the owner of the land to which the notice or statement pertains or the landowner's agent or trustee, the executor or administrator of the estate of a deceased landowner, the guardian or conservator of the estate of a minor or legally disabled person, or one of several joint owners or tenants in common, by either of the following means:
(1) Personal delivery; or
(2) certified mail.
(b) The notices and statements required by K.S.A. 2-1320, and amendments thereto, may be served by any of the following:
(1) The county, city, township, or district weed supervisor for the county, city, township, or district where the land specified in the notice or statement is located;
(2) a county commissioner of the county where the land specified in the notice or statement is located;
(3) the sheriff of the county where the land specified in the notice or statement is located; or
(4) a member of the governing body of a city or the marshal or a law enforcement officer of any city having jurisdiction over land described in the notice or statement.
(c) If personal service or service by certified mail cannot be achieved within 45 days of the date on which any weed control activities are performed pursuant to K.S.A. 2-1320 and amendments thereto, then the notice or statement may be posted at the property where the weed control activity was performed, and the posting shall be considered valid notice.

4-8-14a. Herbicides approved for cost share.

The Kansas department of agriculture's document titled "approved herbicides for cost share," dated May 20, 2020, is hereby adopted by reference.

4-8-27. Adoption of control methods for musk thistle.

(a) The Kansas department of agriculture's document titled "official control methods for musk thistle," dated May 20, 2020, is hereby adopted by reference and shall apply to the control of musk thistle in Kansas.
(b) If a county, city, township, or district weed supervisor determines that musk thistles in the weed supervisor's county, city, township, or district have reached a stage of maturity that will render the weed control methods currently being used in that county, city, township, or district ineffective, the weed supervisor may give notice requiring the effective control methods to be implemented within 10 business days of the date the notice was issued.

4-8-28. Adoption of control methods for Johnsongrass.
The Kansas department of agriculture's document titled "official control methods for Johnsongrass," dated May 20, 2020, is hereby adopted by reference and shall apply to the control of Johnsongrass in Kansas.

4-8-29. Adoption of control methods for field bindweed.
The Kansas department of agriculture's document titled "official control methods for field bindweed," dated May 20, 2020, is hereby adopted by reference and shall apply to the control of field bindweed in Kansas.

4-8-30. Adoption of control methods for hoary cress.
The Kansas department of agriculture's document titled "official control methods for hoary cress," dated May 20, 2020, is hereby adopted by reference and shall apply to the control of hoary cress in Kansas.

4-8-31. Adoption of control methods for Russian knapweed.
The Kansas department of agriculture's document titled "official control methods for Russian knapweed," dated May 20, 2020, is hereby adopted by reference and shall apply to the control of Russian knapweed in Kansas.

4-8-32. Adoption of control methods for bur ragweed.
The Kansas department of agriculture's document titled "official control methods for bur ragweed," dated May 20, 2020, is hereby adopted by reference and shall apply to the control of bur ragweed in Kansas.

4-8-33. Adoption of control methods for Canada thistle.
The Kansas department of agriculture's document titled "official control methods for Canada thistle," dated May 20, 2020, is hereby adopted by reference and shall apply to the control of Canada thistle in Kansas.

4-8-34. Adoption of control methods for leafy spurge.
The Kansas department of agriculture's document titled "official control methods for leafy spurge," dated May 20, 2020, is hereby adopted by reference and shall apply to the control of leafy spurge in Kansas.

4-8-35. Adoption of control methods for quackgrass.
The Kansas department of agriculture's document titled "official control methods for quackgrass," dated May 20, 2020, is hereby adopted by reference and shall apply to the control of quackgrass in Kansas.

4-8-36. Adoption of control methods for pignut.
The Kansas department of agriculture's document titled "official control methods for pignut," dated May 20, 2020, is hereby adopted by reference and shall apply to the control of pignut in Kansas.

4-8-37. Adoption of control methods for kudzu.

The Kansas department of agriculture's document titled "official control methods for kudzu," dated May 20, 2020, is hereby adopted by reference and shall apply to the control of kudzu in Kansas.

4-8-38. Weed supervisor employment.

(a) Each individual hired to serve as a county, city, township, or district weed supervisor shall be hired as an employee of the county, city, township, or district and not as an independent contractor. Any county, city, township, or district weed supervisor serving as an independent contractor when this regulation becomes effective may continue to serve as an independent contractor until the expiration of the current term under that individual's existing contract, which shall not be renewed or extended.

(b) Any individual seeking employment as a county, city, township, or district weed supervisor may be conditionally approved for employment by the secretary if the individual has education, training, or experience sufficient to allow the individual to carry out the employment duties of a county, city, township, or district weed supervisor.

(c) Final approval of the employment of each individual who has been conditionally approved to be employed as a county, city, township, or district weed supervisor may be issued by the secretary when the individual has met the following requirements:

(1) Obtained certification as a pesticide applicator in category 9a, regulatory pest control, noxious weed control, pursuant to K.S.A. 2-2438a et seq. and amendments thereto; and

(2) successfully completed the noxious weed basic short course offered by the Kansas department of agriculture, plant protection and weed control program.

(d) Approval of the employment of each individual previously approved for employment as a county, city, township, or district weed supervisor may be renewed by the secretary on or before January 1 of each year if the individual meets the following requirements:

(1) Is still employed as a county, city, township, or district weed supervisor by the same county, city, township, or district when renewal is sought;

(2) is currently certified as a pesticide applicator as specified in paragraph (b)(1); and

(3) has timely filed the annual weed eradication progress report and any other records or reports requested by the secretary.

(e) Approval of the employment of any county, city, township, or district weed supervisor shall be withdrawn by the secretary if the county, city, township, or district weed supervisor has failed, without just cause, to comply with any of the requirements specified in subsection (c).

4-8-40. Adoption of control methods for sericea lespedeza.

The Kansas department of agriculture's document titled "official control methods for sericea lespedeza," dated May 20, 2020, is hereby adopted by reference and shall apply to the control of sericea lespedeza in Kansas.

4-8-44. Designation of noxious weeds.

(a) Pursuant to K.S.A. 2-1314 and amendments thereto, the weeds designated noxious by the secretary shall be placed in the following categories:

(1) Category A noxious weeds, which are weed species that are generally not found in the state or that are found limited in distribution throughout the state;

(2) category B noxious weeds, which are weed species with discrete distributions throughout the state; and
(3) category C noxious weeds, which are weed species that are well established within the state and known to exist in larger or more extensive populations in the state.
(b) Category A noxious weeds shall be subject to control efforts directed at excluding the noxious weeds from the state or eradicating the population of noxious weeds wherever detected statewide, in order to protect neighboring lands and the state as a whole. Category A noxious weeds shall include the following:
(1) Hoary cress, Lepidium draba;
(2) leafy spurge, Euphorbia virgata;
(3) quackgrass, Elymus repens;
(4) Russian knapweed, Rhaponticum repens;
(5) kudzu, Pueraria montana variety lobata; and
(6) pignut, Hoffmannseggia glauca.
(c) Category B noxious weeds shall be subject to control wherever populations have become established within the state and subject to control efforts directed at eradication wherever populations are not established. Category B noxious weeds shall include Canada thistle, Cirsium arvense.
(d) New populations of category C noxious weeds shall be subject to control efforts directed at reducing or eradicating those populations. Known and established populations of category C noxious weeds shall be managed by any approved control method. Category C noxious weeds shall include the following:
(1) Field bindweed, Convolvulus arvensis;
(2) musk thistle, Carduus nutans;
(3) sericea lespedeza, Lespedeza cuneata;
(4) Johnsongrass, Sorghum halepense; and
(5) bur ragweed, Ambrosia grayii.
(e) Any county, city, township, or district weed supervisor or any official of another government agency may require the most stringent control measures specified in this regulation for any noxious weed, regardless of the category in which this regulation places that noxious weed, if the county, city, township, or district weed supervisor or government agency official determines that it is necessary to do so based on the results of the survey provided pursuant to K.S.A. 2-1316, and amendments thereto.

4-8-45. Official control plans.

(a) Each official control plan adopted by the secretary shall be based on the most current available science and shall include, if applicable, biological, chemical, cultural, and mechanical methods of control.
(b) A control method adopted by the secretary as part of an official control plan that includes more than one control method shall not be used alone for the control of noxious weeds, except that any chemical control method may be used alone and any county, city, township, or district weed supervisor may, at the county, city, township, or district weed supervisor's discretion, use any integrated weed management technique alone for the control of any perennial noxious weed.
(c) The control of each noxious weed species shall be undertaken in accordance with the official control plan adopted by the secretary for that noxious weed species.

4-8-46. Annual report.
Each annual weed eradication progress report that a weed supervisor submits to the secretary pursuant to K.S.A. 2-1316, and amendments thereto, shall include, at a minimum, the following:
(a) The approximate acreage of land, including roadside areas, currently infested with each species of noxious weed and the location of each infestation in the county;
(b) the dollar amount of all expenditures made during the year to purchase materials, chemicals, and other equipment for the control of noxious weeds;
(c) the dollar amount of all sales made during the year, for cash or charge, of materials, chemicals, and other equipment for the control of noxious weeds;
(d) the dollar amount of all charges and receipts made during the year for use of equipment owned by each county, city, township, or district on public or private land;
(e) the approximate acreage of land, including roadside areas, treated for each species of noxious weed during the year and the control methods used for treatment; and
(f) any other relevant information that the secretary deems necessary.

4-8-47. Management plan.
Each county, city, township, or district weed supervisor, with the aid of that county, city, township, or district weed supervisor's board of county commissioners or city or township board, shall submit a management plan to the secretary no later than March 15 of each year pursuant to K.S.A. 2-1316, and amendments thereto. Each management plan shall be submitted on a form provided by the department and shall include, at a minimum, the following:
(a) The goals and priorities of the county, city, township, or district's noxious weed control program;
(b) the distribution and abundance of each noxious weed species known to exist within the county, city, township, or district; specific locations of new infestations; and areas particularly susceptible to new infestations;
(c) integrated weed management goals and procedures, including goals and procedures regarding biological control agent selection and distribution, pesticide selection and application, and cultural and mechanical controls;
(d) the estimated personnel, operations, and equipment costs of the proposed program;
(e) a compliance plan or strategy;
(f) a strategy for working with state agencies to control noxious weeds on state lands; and
(g) any other relevant information that the secretary deems necessary.

4-8-48. Contents of notices and statements.
Each notice or statement given to the owner, operator, or supervising agent of any noxious weed-infested land pursuant to K.S.A. 2-1331, and amendments thereto, shall include, at a minimum, the following:
(a) The legal description of the noxious weed-infested land;
(b) the name of the owner, operator, or supervising agent of the noxious weed-infested land, as indicated by the records of the clerk of the county where the land is located;
(c) the approximate acreage of the noxious weed infestation or infestations specified in the notice or statement;

(d) the official methods adopted by the secretary for the control of the noxious weeds specified in the notice or statement;
(e) a time frame, which shall not be fewer than five days after mailing the notice, in which the owner or operator or supervising agent of the noxious weed-infested land shall implement the required noxious weed control methods;
(f) a statement that if the owner, operator, or supervising agent fails to implement the required noxious weed control methods within the time frame provided in the notice or statement, the county, city, township, or district weed supervisor may enter the noxious weed-infested land or cause the noxious weed-infested land to be entered upon as often as necessary to control the noxious weed infestation and may use approved noxious weed control methods that the county, city, township, or district weed supervisor deems best adapted for the control of noxious weeds on the particular area of land;
(g) a statement that if the county, city, township, or district weed supervisor enters the noxious weed-infested land or causes the noxious weed-infested land to be entered upon to control the noxious weed infestation, the owner, operator, or supervising agent shall be served notice of the costs of treatment pursuant to K.S.A. 2-1332, and amendments thereto; and
(h) a statement that the owner, operator, or supervising agent may be prosecuted pursuant to K.S.A. 2-1323, and amendments thereto, and, if convicted, fined as established by law.

K.A.R. 4-18-14a

Kansas Department of Agriculture
Approved Herbicides for Cost Share

May 20, 2020

The following herbicides may be used for cost share with landowners for the control of noxious weeds only. The use of tank mixes or pre-mixes of two or more of the following herbicides may be available for cost share if approved by your county Weed Director and allowed in accordance with the appropriate labels. Other products labeled and registered for use on noxious weeds in Kansas may be used in accordance with label directions but are not available for cost share. Be sure to follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of "Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland".

Herbicide	Noxious Weeds	Mode of Action
2,4-D	Field bindweed, Musk thistle, Canada thistle, Pignut	Group 4
2,4-D LV Ester	Bur ragweed, Leafy spurge, Hoary cress, Russian knapweed	Group 4
Aminopyralid	Musk thistle, Sericea lespedeza, Bur ragweed, Canada thistle, Kudzu, Russian knapweed	Group 4
Chlorsulfuron	Musk thistle, Sericea lespedeza, , Canada thistle, Hoary cress, Russian knapweed	Group 2
Clopyralid	Musk thistle, Canada thistle	Group 2
Dicamba	Field bindweed, Musk thistle, Bur ragweed, Canada thistle, Leafy spurge, Hoary cress, Kudzu, Russian knapweed	Group 4
Diflufenzopyr	Field bindweed, Musk thistle, Canada thistle, Leafy spurge	Group 19
Diquat	Quackgrass	Group 22
Fenoxaprop	Johnsongrass	Group 1
Florpyrauxifen	Musk thistle, Bur ragweed, Canada thistle, Kudzu, Russian knapweed	Group 4
Fluazifop	Johnsongrass, Quackgrass	Group 1
Fluroxypyr	Sericea lespedeza	Group 4
Foramsulfuron	Johnsongrass	Group 2
Glyphosate	Field bindweed, Musk thistle, Johnsongrass, Canada thistle, Leafy spurge, Quackgrass, Kudzu, Russian knapweed	Group 9
Imazapic	Field bindweed, Musk thistle, Johnsongrass, Leafy spurge, Russian knapweed	Group 2
Imazapyr	Field bindweed, Canada thistle, Hoary cress, Russian knapweed	Group 2

Metsulfuron-methyl	Musk thistle, Johnsongrass, Sericea lespedeza, Canada thistle, Hoary cress	Group 2
Nicosulfuron	Johnsongrass, Quackgrass	Group 2
Picloram	Field bindweed, Musk thistle, Johnsongrass, Sericea lespedeza, Bur ragweed, Canada thistle, Hoary cress, Pignut, Russian knapweed	Group 2
Primisulfuron	Johnsongrass, Quackgrass	Group 2
Quinclorac	Field bindweed	Group 4
Quizalofop	Johnsongrass	Group 1
Rimusulfuron	Johnsongrass	Group 2
Sethoxydim	Johnsongrass, Quackgrass	Group 1
Sulfometuron	Johnsongrass	Group 2
Sulfosulfuron	Johnsongrass, Quackgrass	Group 2
Tebuthiuron	Kudzu	Group 7
Triasulfuron	Musk Thistle	Group 2
Triclopyr	Sericea Lespedeza, Kudzu	Group 4

K.A.R. 4-8-29

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL CONTROL METHODS FOR FIELD BINDWEED

Convolvulus arvensis L.

Revised May 20, 2020

DESCRIPTION

Field bindweed is a twining perennial forb native to Europe and Asia. It reproduces by seeds and rootstocks. The root system is extensive, extending to a depth of 20-30 feet. The smooth, slender stems twine or spread over the soil and vegetation. Leaves up to 2 inches long are alternate, simple, petioled, and highly variable in shape and size. The leaf blade may be oblong to elliptical or may be rounded to pointed with spreading basal lobes. Flowers are white, pink, or white with pink, funnel-shaped, about 1 inch across, and usually borne singly in the axils of leaves. Each flower stalk has two tiny, scale-like bracts ½-2 inches below the flower; the bracts, along with leaf shape and small flower size, distinguish field bindweed from hedge bindweed. Seeds are dark, brownish-gray, about 1/8-inch-long, and have one rounded and two flattened sides. Flowering from June-August; fruiting from August-October.

PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all people to control the spread of and to eradicate field bindweed on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. Because field bindweed is a perennial, with the exception of herbicide applications, two or more of the following methods must be used together to control field bindweed. Infestation sites must be monitored after control methods have been accomplished to ensure that dormant seeds in the seedbank do not germinate and establish new infestations.

FIELD BINDWEED CONTROL PRACTICES

Field bindweed control means that both the roots and the flowers must be destroyed. The seeds of field bindweed will remain viable in the soil for up to 50 years so even repeated control practices may not deplete the seedbank resulting in the re-establishment of the infestation. Contact your county noxious weed director for more information.

Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

Using the combination of no-till farming methods, good crop rotation to break weed cycles, and keeping the soil covered to decrease weed seed

germination are practices that minimize the establishment of new bindweed populations.

Planting a dense cover crop in the spring, after a period of intensive cultivation, may provide effective competition for field bindweed. The effectiveness of all competitive crops depends on intensive cultivation during the field bindweed growing season when land is not in crop.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent field bindweed from becoming established.

Mechanical Control

Mechanical weed control involves the physical removal of all parts or just the reproductive parts of weeds.

As a perennial species, field bindweed is difficult to control mechanically. Deep, repeated cultivation has been shown to reduce field bindweed infestations.

Once cultivated, the plant will regenerate its root system in about three weeks and any piece of a root that was broken during cultivation may establish a new plant. Therefore, to be effective, cultivation should occur every two to three weeks annually. Such repetitive cultivation throughout the growing season will deplete the root system and provide control. It is important to clean roots and root fragments from equipment before entering uninfested areas of the field or other fields to prevent the spread of field bindweed. This is not financially practical for most agricultural production systems and may also increase erosion of the topsoil. In general, mechanical control is not a good option because field bindweed is able to reproduce from roots, and its seed remains viable in the soil for up to 50 years.

Chemical Control

The following herbicides may be used for cost share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost share. Be sure to read and follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland”.

The use of tank mixes or pre-mixes of two or more of the following herbicides may be available for cost share if approved by your county Weed Director and allowed in accordance with the appropriate labels. Contact your county weed program for availability of these herbicides.

It is highly recommended that you switch between herbicides with different modes of action often.

Herbicide	Mode of Action
2,4-D	4
dicamba	4
diflufenzopyr	19
diquat	22
glyphosate	9
imazapic	2
imazapyr	2
picloram	4
quinclorac	4

Biological Control

Biological control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant, therefore other control methods must be used in addition to the use of biological control agents as part of an integrated pest management strategy. The importation of biological control agents is regulated by USDA-APHIS and is allowed by permit only.

Cheilosia corydon flower fly

While the following biological control agents are available for field bindweed, they have proven to be ineffective in the state of Kansas and therefore the Kansas Department of Agriculture will not be able to provide any for use. Other agents may be available for use if the appropriate permit is obtained.

Aceria malherbae gall mite
Tyta luctuosa leaf-feeding moth

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL CONTROL METHODS FOR MUSK THISTLE

Carduus nutans L.

Revised May 20, 2020

DESCRIPTION

Musk thistle is primarily a biennial, winter annual or short-lived perennial forb that was introduced from Eurasia. The leaves are deeply lobed, hairless, and dark green with a light green mid-rib. A silver-gray leaf margin is characteristic of each spine tipped lobe, giving the leaf a frosted appearance. The stems grow from a rosette of leaves that grow flat to the ground and are present year-round. The leaf base extends down the stem as wing-like flaps. Musk thistle is the first of the thistles to bloom in the spring. Each head is 2 to 3 inches in diameter, terminal, solitary, usually nodding or bent over slightly at the ends of branches, and consisting of many, tiny, purple (rarely white) flowers. The seed-like fruits are straw-colored, oblong, and 1/8-inch-long topped by numerous ½-1-inch, white, capillary bristles that aid in dispersal of the seeds and detach as a unit. Fruit dispersal begins 7-10 days after blooming. Flowering May-September (occasionally until frost); fruiting May-frost.

PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all people to control the spread of and to eradicate musk thistle on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. Infestation sites must be monitored after control methods have been accomplished to ensure that dormant seeds in the seedbank do not germinate and establish new infestations.

MUSK THISTLE CONTROL PRACTICES

Because musk thistle is a biennial or short-lived perennial, you may be able to use mechanical controls alone as a control option because only the flower needs to be destroyed for control. Contact your county noxious weed director for more information.

Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

The use of sheep, goats and cattle to graze musk thistle may be used during the rosette to bolting stage then repeated as necessary to prevent the production of flowers. Repeat grazing each year to deplete the seedbank and provide control.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent musk thistle from becoming established.

Mechanical Control

Mechanical weed control involves the physical removal of all parts or just the reproductive parts of weeds.

Any mechanical controls that prevent the plant from producing flowers, including mowing and burning, may be used to control musk thistle as long as that control takes place before any flowers are produced. Care must be taken to ensure that a new stem does not sprout from the root crown. Removal of the root crown is preferable, therefore mechanical controls such as digging, hoeing, disking or tilling are more effective and preferred.

Mechanical controls can be used throughout the year when they target the rosette.

Chemical Control

The following herbicides may be used for cost share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may also be used in accordance with label directions but are not available for cost share. Be sure to follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of "Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland".

Any two or more of the herbicides listed below may be available for cost share as a pre-mix or a tank mix if allowed on the respective labels. Contact your county weed program for availability.

Herbicide	Mode of Action
2,4-D	4
aminopyralid	4
chlorsulfuron	2
clopyralid	4
dicamba	4
diflufenzopyr	19
imazapic	2
metsulfuron-methyl	2
picloram	4
triasulfuron	2

Biological Control

Biological control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant, therefore other control methods must be used in addition to the use of biological control agents as part of an integrated pest management strategy. The importation of biological control agents is regulated by USDA-APHIS and is allowed by permit only. The following agent is permitted for use on musk thistle

in Kansas. Other agents may be available for use if the appropriate permit is obtained.

Cheilosia corydon	flower fly

The below species are available for use within the state of Kansas though neither of these insects may be transported across state lines either into or out of Kansas. Consult with your County Noxious Weed Director for more information.

Rhinocyllus conicus	head weevil
Trichosirocalus horridus	crown weevil

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL CONTROL METHODS FOR JOHNSONGRASS

Sorghum halepense (L.) Pers.

Revised May 20, 2020

DESCRIPTION

Johnsongrass is a warm-season, perennial grass native to Asia and northern Africa. It reproduces by long rhizomes and seeds. It is well adapted to hold its own in competition with crop plants. Stems grow up to 6-12 feet tall, from freely branching, stout, fleshy rhizomes bearing, fibrous roots. Leaves are alternate, simple, and relatively wide and long with a prominent white midvein. Spikelets are paired (1 sessile and perfect, 1 stalked and anther-bearing) and borne in large open panicles. The fruits are reddish-brown grains about 2 mm long, . Flowering from May – frost; fruiting June – frost.

PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all landowners to control the spread of and to eradicate Johnsongrass on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. Infestation sites must be monitored after control methods have been accomplished to ensure that dormant seeds in the seedbank do not germinate and establish new infestations.

JOHNSONGRASS CONTROL PRACTICES

Johnsongrass control means that both the roots, rhizomes and the flowers must be destroyed. The rhizomes, which are horizontal underground stems, can extend for more than 6 feet from the original plant and can sprout new plants every few inches. Because Johnsongrass is a perennial, with the exception of herbicide applications, one or more of the following control methods must be used together to control Johnsongrass. Contact your county noxious weed director for more information.

Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

Johnsongrass is generally a good forage grass, especially when young and healthy, and is intolerant of heavy grazing. However, plants at certain developmental stages (when leaves and stems are actively growing) or when stressed (especially due to drought, extreme heat, or frost) can become toxic to livestock due to the production of cyanogenic glycosides. Also, prolonged consumption of fresh Johnsongrass can cause nitrate poisoning in ungulates. Consequently, grazing as a control method must be carried out with extreme caution.

Planting a dense cover crop in the spring, after a period of intensive cultivation, may provide effective competition for Johnsongrass. The effectiveness of all competitive crops depends on intensive cultivation during the Johnsongrass growing season when land is not in crop.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent Johnsongrass from becoming established.

Mechanical Control

Mechanical weed control involves the physical removal of all parts or just the reproductive parts of weeds.

As a perennial species, Johnsongrass is difficult to control mechanically. Hand-pulling or hoeing may work for small, recently established populations, they are too time-consuming and laborious to be economical on a large scale. Mowing or harvesting prevents weed seed production but does not prevent the plant from reproducing vegetatively.

Fall plowing may bring Johnsongrass rhizomes closer to the surface, exposing them to killing temperatures. Cultivation reduces carbohydrate reserves in Johnsongrass, making it less competitive. Once cultivated, the system of rhizomes can quickly produce new plants and cultivation can spread the pieces of rhizome, ultimately increasing the extent of the infestation. It is important to clean roots and root fragments from equipment before entering uninfested areas of the field or other fields to prevent the spread of Johnsongrass. This is not financially practical for most agricultural production systems and may also increase erosion of the topsoil. In general, mechanical control is not a good option because plants are able to reproduce from both rhizomes and seed.

Chemical Control

The following herbicides may be used for cost share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost share. Be sure to follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland”.

Any two or more of the herbicides listed below may be available for cost share as a pre-mix or a tank mix if allowed on the respective labels. Contact your county weed program for availability.

Herbicide	Mode of Action
fenoxaprop-ethyl	1
fluazifop-p-butyl	1
foramsulfuron	2
glyphosate	9
imazapic	2
metsulfuron methyl	2
nicosulfuron	2
primisulfuron	1
quizalofop-p	1
rimsulfuron	2
sethoxydim	1
sulfometuron	2
sulfosulfuron	2

Biological Control

Biological control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant, therefore other control methods must be used in addition to the use of biological control agents as part of an integrated pest management strategy. The importation of biological control agents is regulated by USDA-APHIS and is allowed by permit only.

There are no biological control agents available for Johnsongrass.

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL CONTROL METHODS FOR SERICEA LESPEDEZA

Lespedeza cuneata (Dum. Cours.) G. Don
Revised May 20, 2020

DESCRIPTION

Sericea lespedeza is a shrubby-looking perennial forb, 2-5 feet tall with many branching stems from a stout, woody, branched taproot. It is native to Asia. The leaves, each with three ¼-1-inch long leaflets, are crowded along the stems. The leaflets are wedge- or club-shaped. Two types of flowers are produced individually or in small clusters along the stems: showy, mostly cross-pollinated flowers are ¼ inch long and cream-colored with purple markings; Self-pollinated flowers are smaller and less showy. Fruits from both types of flowers are tan to brown, one-seeded pods 1/8 - ¼ inches long. Flowering August-frost; fruiting September-frost.

PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all landowners to control the spread of and to eradicate sericea lespedeza on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. Infestation sites must be monitored after control methods have been accomplished to ensure that dormant seeds in the seedbank do not germinate and establish new infestations.

SERICEA LESPEDEZA CONTROL PRACTICES

Sericea lespedeza control means that both the roots and the flowers must be destroyed. Because sericea lespedeza is a perennial, with the exception of herbicide applications, one or more of the following methods must be used together to control sericea lespedeza.

Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

The use of sheep or goats to graze sericea lespedeza may be used on young plants early in the season. Two or more treatments are necessary each season. Repeat grazing each year to deplete the seedbank and provide control.

Controlled burning of grasslands infested with sericea lespedeza in late August through September will kill the above-ground portion of the plant, including flowers and seeds which are produced at that time of year, preventing the plants from reproducing sexually. It will also encourage seed in the seedbank to germinate. Juvenile plants are susceptible to winter kill.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent sericea lespedeza from becoming established.

Mechanical Control

Mechanical weed control involves the physical removal of all parts or just the reproductive parts of weeds.

As a perennial species, sericea lespedeza is difficult to control mechanically. Although not as effective as late season burning, because the mown plants are not removed and the soil is not heated allowing for the dormant seeds in the seedbank to germinate, repeated mowing in the flower bud stage should reduce the vigor of sericea lespedeza.

Chemical Control

The following herbicides may be used for cost share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost share. Be sure to follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of "Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland".

Any two or more of the herbicides listed below may be available for cost share as a pre-mix or a tank mix if allowed on the respective labels. Contact your county weed program for availability.

Herbicide	Mode of Action
aminopyralid	4
chlorsulfuron	2
fluroxypyr	4
metsulfuron methyl	2
picloram	4
triclopyr	4

Biological Control

Biological control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant, therefore other control methods must be used in addition to the use of biological control agents as part of an integrated pest management strategy. The importation of biological control agents is regulated by USDA-APHIS and is allowed by permit only.

There are no biological control agents available for sericea lespedeza.

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL CONTROL METHODS FOR BUR RAGWEED

Ambrosia grayii (A. Nelson) Shinners
Revised May 20, 2020

DESCRIPTION

Bur ragweed is a native, erect, perennial forb, 1-2 feet tall, that reproduces by underground root-stocks and seeds. Stems are usually branching from the base and covered with fine, woolly hairs that give the plant a silvery-gray to purplish-white appearance. The leaves are usually alternate rarely opposite toward the base of the stem), broadly ovate, pinnately 3-5-parted or entire, long-petioled, and dusty greenish-gray. The central lobe of the leaves is usually much larger than the lateral lobes. Male and female flowers are borne in separate heads, with male heads, drooping, about ¼ inch in diameter, and produced in terminal racemes, and female heads, mostly solitary in the leaf axils, 2-flowered, and less than ¼ inch in diameter. The 1-seeded fruits are bur-like, 1/8-1/4-inch-long, and bear stout, straight or hooked spines that are 1/16-1/8 inch long. Flowering and fruiting September-frost.

PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all landowners to control the spread of and to eradicate bur ragweed on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. Infestation sites must be monitored after control methods have been accomplished to ensure that dormant seeds in the seedbank do not germinate and establish new infestations.

BUR RAGWEED CONTROL PRACTICES

Bur ragweed control means that both the roots and the flowers must be destroyed. Because bur ragweed is a perennial, with the exception of herbicide applications, one or more of the following methods must be used together to control bur ragweed.

Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent bur ragweed from becoming established.

Mechanical Control

Mechanical weed control involves the physical removal of all parts or just the reproductive parts of weeds.

As a perennial species, bur ragweed is difficult to control mechanically. Controlling bur ragweed with cultivation would require tillage three to four

inches deep every 14 to 21 days annually to deplete the seedbank. Following this time period, the area should be regularly policed for new seedlings which can be killed by further cultivation. When using this method, it is important to clean bur ragweed roots and root fragments from equipment before entering uninfested areas of the field or other fields to prevent the spread of bur ragweed.

Current residue requirements for cropland would not allow the excessive amounts of tillage needed to control bur ragweed. It is also not practical to clean cultivate over a two-year period because of the resulting wind and water erosion or loss of income due to no crop returns.

Chemical Control

The following herbicides may be used for cost share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost share. Be sure to follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of "Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland".

Any two or more of the herbicides listed below may be available for cost share as a pre-mix or a tank mix if allowed on the respective labels. Contact your county weed program for availability.

Herbicide	Mode of Action
2,4-D LV Ester	4
aminopyralid	4
dicamba	4
florpyrauxifen-benzyl	4
picloram	4

Biological Control

Biological control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant, therefore other control methods must be used in addition to the use of biological control agents as part of an integrated pest management strategy. The importation of biological control agents is regulated by USDA-APHIS and is allowed by permit only.

There are no biological control agents available for bur ragweed.

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL CONTROL METHODS FOR CANADA THISTLE

Cirsium arvense (L.) Scop.

Revised May 20, 2020

DESCRIPTION

Canada thistle is a perennial forb native to Europe. It reproduces by seeds and whitish, creeping roots that send up new shoots every 8-12 inches. Stems are 2-4 feet tall, and usually branched above the middle, Leaves are alternate, oblong or lanceolate, irregularly lobed or toothed, spiny-margined, and hairless or white-haired. Flowers are pink to purple (rarely white) and borne in 0.5-1-inch-diameter heads clustered near the ends of branches. Male and female flowers are on different plants and can be difficult to tell apart without careful examination. For viable seed to be produced, plants bearing male flowers and plants bearing female flowers need to be in close proximity. The seed-like fruits are about 1/8-inch-long, smooth, light to dark brown, oblong, slightly flattened and slightly curved, and bear a terminal cluster of numerous white, 0.5-1inch capillary bristles that aid in wind dispersal. Flowering June-August; fruiting July-frost.

PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all landowners to control the spread of and to eradicate Canada thistle on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. Infestation sites must be monitored after control methods have been accomplished to ensure that dormant seeds in the seedbank do not germinate and establish new infestations.

CANADA THISTLE CONTROL PRACTICES

Canada thistle control means that both the roots and the flowers must be destroyed. Because Canada thistle is a perennial, with the exception of herbicide applications, one or more of the following methods must be used together to control Canada thistle.

Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

The use of sheep, goats and cattle to graze Canada thistle grazing when rosettes are green and begin to sprout. Remove animals when grazing shifts to desirable species and then re-graze new sprouts repeat often enough during the season to prevent flowering. Grazing treatment will need to be repeated annually to deplete the seedbank and provide control.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent Canada thistle from becoming established.

Mechanical Control

Mechanical weed control involves the physical removal of all parts or just the reproductive parts of weeds.

As a perennial species, Canada thistle is difficult to control mechanically. Repeated mowing of Canada thistle over a three-year period, timed for bud to early-bloom stage, should suppress infestations in forages. This mowing should be as low to the ground as practical. Care must be taken to mow before any of the target plants sets seed; mowing after seed set will help disperse the seed.

Chemical Control

The following herbicides may be used for cost share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost share. Be sure to follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of "Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland".

Any two or more of the herbicides listed below may be available for cost share as a pre-mix or a tank mix if allowed on the respective labels. Contact your county weed program for availability.

Herbicide	Mode of Action
2,4-D	4
aminopyralid	4
chlorsulfuron	2
clopyralid	4
dicamba	4
diflufenzopyr	19
glyphosate	9
imazapyr	2
metsulfuron-methyl	2
picloram	4

Biological Control

Biological control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant, therefore other control methods must be used in addition to the use of biological control agents as part of an integrated pest management strategy. The importation of biological control agents is regulated by USDA-APHIS and is allowed by permit only. The following agents are permitted for use on Canada thistle. Other agents may be available for use if the appropriate permit is obtained.

Ceutorhynchus litura	stem weevil
Urophora cardui	stem gall fly

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL CONTROL METHODS FOR LEAFY SPURGE

Euphorbia virgata Waldst. & Kit.

Revised May 20, 2020

DESCRIPTION

Leafy spurge is a perennial forb introduced from Europe and Asia. It reproduces by seed and creeping roots that give rise to new roots and shoots every few inches. Stems are bright green, 2/3-2 feet tall branched above the middle, stiff and woody when mature, and usually grow in bunches. Stems are branched at top, very stiff and woody when mature. The stems and leaves emit a milky sap when broken. Leaves are alternate, oblong 1½-3½ inches long, and entire.. Male and female flowers are tiny and borne together in small cup-like structures surrounded by broad greenish-yellow bracts. Groups of flower-bearing cups and their bracts are produced in umbel-like clusters at the ends of the stems. Seeds are borne in three-lobed capsules with 3 seeds per capsule, and are ejected explosively from the capsule to distances up to 20 feet. Flowering May -September and; fruiting June-October.

PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all landowners to control the spread of and to eradicate leafy spurge on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. Infestation sites must be monitored after control methods have been accomplished to ensure that dormant seeds in the seedbank do not germinate and establish new infestations.

LEAFY SPURGE CONTROL PRACTICES

Leafy spurge control means that both the roots and the flowers must be destroyed. Because leafy spurge is a perennial, with the exception of herbicide applications, one or more of the following methods must be used together to control leafy spurge.

Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

The use of sheep or goats to graze leafy spurge may be used during the vegetative to flowering stage then repeated as necessary to prevent the production of flowers. Repeat grazing each year to deplete the seedbank and provide control.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent leafy spurge from becoming established.

Mechanical Control

Mechanical weed control involves the physical removal of all parts or just the reproductive parts of weeds.

As a perennial species, leafy spurge is difficult to control mechanically. An intensive cultivation program should begin in the spring, two to four weeks after leafy spurge emerges, tilling four inches deep. Cultivation should continue every three weeks until the soil freezes in the fall for at least two growing seasons. The tillage schedule cannot be interrupted because leafy spurge recovers quickly from the effects of cultivation. Pieces of roots as small as 0.5-inch-long and 0.1-inch diameter can produce new shoots and can survive two or three hours of drying in the hot sun.

It is important to clean leafy spurge roots and root fragments from equipment before entering uninfested areas of the field or other fields to prevent the spread of leafy spurge.

Because of the resulting wind and water erosion or loss of income due to no crop returns, it is not practical to cultivate over a two to four-year period.

Chemical Control

The following herbicides may be used for cost share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost share. Be sure to follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of "Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland".

Any two or more of the herbicides listed below may be available for cost share as a pre-mix or a tank mix if allowed on the respective labels. Contact your county weed program for availability.

Herbicide	Mode of Action
2,4-D LV Ester	4
dicamba	4
diflufenzopyr	19
glyphosate	9
imazapic	2
picloram	4

Biological Control

Biological control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant, therefore other control methods must be used in addition to the use of biological control agents as part of an integrated pest management strategy. The importation of biological control agents is regulated by USDA-APHIS and is allowed by permit only. The following agents are permitted for use on Leafy Spurge. Other agents may be available for use if the appropriate permit is obtained.

Aphthona abdominalis	minute spurge flea beetle
Aphthona czwalinae	black leafy spurge flea beetle
Aphthona flava	copper leafy spurge flea beetle
Aphthona lacertosa	brown-legged spurge flea beetle
Aphthona nigriscutis	black dot leafy spurge flea beetle
Hyles euphorbiae	spurge hawk-moth
Oberea erythrocephala	red-headed leafy spurge stem borer
Spurgia esulae	shoot tip gall midge

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL CONTROL METHODS FOR HOARY CRESS

Lepidium draba L.

Revised May 20, 2020

DESCRIPTION

Hoary Cress is a perennial forb introduced from Eurasia. It reproduces by extensive root systems, rhizomes, and seeds. Stems are 0.5-3 feet tall and nearly hairless to moderately hairy. Leaves are alternate, oblong, 1-3 inches long, and grayish-green with toothed margins. The upper leaves are attached directly to the stem with a broad, forked base that appears to clasp the stem. The flowers are white, 4-petaled, 1/8 inch across, and borne in showy, compact racemes. The fruits are flattened, heart-shaped pods about 1/8-inch long. One granular, reddish brown seed is produced in each half of the pods. Flowering May-July; fruiting June-August.

PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all landowners to control the spread of and to eradicate hoary cress on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. Infestation sites must be monitored after control methods have been accomplished to ensure that dormant seeds in the seedbank do not germinate and establish new infestations.

HOARY CRESS CONTROL PRACTICES

Hoary cress control means that both the roots and the flowers must be destroyed. Because hoary cress is a perennial, with the exception of herbicide applications, one or more of the following methods must be used together to control hoary cress.

Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

The use of sheep or goats to graze hoary cress may be used before flowering when the palatability of hoary cress decreases. Repeat at least two times per year to deplete the seedbank and provide control. Grazing hoary cress is considered impractical because of low acceptance by livestock and the potential for poisoning, especially in cattle.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent hoary cress from becoming established.

Mechanical Control

Mechanical weed control involves the physical removal of all parts or just the reproductive parts of weeds.

As a perennial species, hoary cress is difficult to control mechanically. The root system of hoary cress can be exhausted through repeated cultivation. This cultivation must be at least six inches deep and repeated within 10 days of weed emergence throughout the growing season each year to deplete the seedbank. It is important that no green leaves be allowed to develop between cultivations.

It is important to clean hoary cress roots and root fragments from equipment before entering uninfested areas of the field or other fields to prevent the spread of hoary cress.

Because of the resulting wind and water erosion or loss of income due to no crop returns, it is not practical to cultivate over a two to four-year period.

A second option is to cultivate when the plants are three to six inches tall post-harvest. Research has shown that cultivating hoary cress twice each fall after harvest annually provided complete control. The fall cultivation program has an advantage over the season-long program because it allows crops to be grown during the season and limits soil exposure to erosion. Two fall cultivations will reduce hoary cress infestations faster than one cultivation. However, a single cultivation may be a more practical management option when minimal tillage is desired, or soil erosion is a concern.

It is important to clean hoary cress roots and root fragments from equipment before entering uninfested areas of the field or other fields to prevent the spread of hoary cress.

Chemical Control

The following herbicides may be used for cost share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost share. Be sure to follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of "Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland".

Any two or more of the herbicides listed below may be available for cost share as a pre-mix or a tank mix if allowed on the respective labels. Contact your county weed program for availability.

Herbicide	Mode of Action
2,4-D LV Ester	4
chlorsulfuron	2
dicamba	4
imazapyr	2
metsulfuron methyl	2

Biological Control

Biological control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant, therefore other control methods must be used in addition to the use of biological control agents as part of an integrated pest management strategy. The importation of biological control agents is regulated by USDA-APHIS and is allowed by permit only.

There are no biological control agents available for hoary cress.

K.A.R. 4-8-36
KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL CONTROL METHODS FOR PIGNUT

Hoffmannseggia glauca (Ortega) Eifert
Revised May 20, 2020

DESCRIPTION

Pignut, also known as hogpotato and Indian rushpea, is a native, perennial legume. The stems, petioles, flowers, and fruits are covered with tiny, distinctive, tack-shaped glands. Pignut has deep roots on which develop nut-like tubers 10-15 inches below the surface that are difficult to remove from the soil. The stems are 8-12 inches tall. The leaves are mostly at the base of the stem, are 3-5 inches long, and twice compound with 3-15 pairs of primary leaflets and 12-22 pairs of secondary leaflets on each primary leaflet. The secondary leaflets are oblong and 1/12-1/4 inch long. The flowers are of the pea-type, yellow or orange-red, and about one half inch long. The seed pods are flat, 1-1 1/2 inches long, and typically contain 1-6 seeds. Flowering from May-September; fruiting from June-October.

PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all people to control the spread of and to eradicate pignut on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. With the exception of herbicide applications, two or more of the following methods must be used together to control pignut.

PIGNUT CONTROL PRACTICES

Pignut control means that both the roots and the flowers must be destroyed. As pignut is a perennial species, no one of the following methods of control may be used alone, with the exception of chemical controls, and your county weed supervisor must approve of any non-chemical control methods.

Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent bur ragweed from becoming established.

Mechanical Control

Mechanical weed control refers to any technique that involves the use of mechanical or manual equipment to control weeds. Unless the entire root of a perennial plant species is removed as part of a mechanical control, the control is

not likely to be successful. As a perennial species, quackgrass is difficult to control mechanically. Mechanical control methods approved for pignut are:

Cultivation - Cultivate three to five inches deep at intervals so as to permit the weeds to grow not more than 10 days after each emergence of first plants, but not to exceed intervals of three weeks. Cultivation shall be continued until the plants have been eradicated or have been suppressed to such an extent that remaining plants may be more economically destroyed by other treatment, as the application of approved chemicals to individual plants or by hand cultivation.

Grubbing - Small infestations should be grubbed out, taking care to remove all the tuberous nut-like roots. This grubbing must be repeated for at least two years annually for good control. It is important to clean roots and root fragments from equipment before entering uninfested areas of the field or other fields to prevent the spread of pignut.

Chemical Control

Chemical weed control refers to any technique that involves the application of an herbicide to weeds or soil to control the germination or growth of the weed species. Cost share herbicides are available to landowners for the control of noxious weeds. While county weed departments may not carry all of the herbicides listed, the herbicides that are available for pignut are:

Herbicide	Mode of Action
2,4-D	4
picloram	2

Biological Control

Biological pest control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant; other control methods must be used in addition to biological control agents. The importation of biological control agents is regulated by the USDA and is allowed by permit only. Biological control agents permitted for use with pignut in Kansas are:

There are no biological controls approved for use on Pignut at this time.

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL CONTROL METHODS FOR QUACKGRASS

Elymus repens (L.) Gould
Revised May 20, 2020

DESCRIPTION

Quackgrass is a cool-season perennial grass introduced from Eurasia. It reproduces by seed and rhizomes. Rhizomes are pale yellow or straw colored, cord-like about 1/8 inch in diameter and vary from 2-18 inches in depth, with new roots and plants emerging from nodes. Stems grow up to 3 feet tall with 3-6 joints. Leaves are 3-12 inches long, shiny, dark green, and bear two conspicuous, tooth-like projections where the blade joins the stem. The dry, lower sheaths, leaves, and stems are distinctly hairy; upper sheaths are hairless or nearly so. Tiny wind-pollinated flowers are borne in groups of 4-7 subtended by 2 unawned or short-awned glumes (each group is called a spikelet). Spikelets are flattened and mostly solitary at each node along a 2-4-inch long terminal spike. The grains are slender and about ¼ inch long. Flowering June-August; fruiting July-October.

PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all landowners to control the spread of and to eradicate quackgrass on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. Infestation sites must be monitored after control methods have been accomplished to ensure that dormant seeds in the seedbank do not germinate and establish new infestations.

QUACKGRASS CONTROL PRACTICES

Quackgrass control means that both the roots and the flowers must be destroyed. Because quackgrass is a perennial, with the exception of herbicide applications, one or more of the following methods must be used together to control quackgrass.

Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

Cattle and horses readily feed on quackgrass, but populations are only suppressed and rarely eradicated even with intensive grazing. Intensively grazing to 2 inches or less will reduce the dominance of quackgrass in an area. Horses and cattle enjoy eating rhizomes, and pigs will root through the soil to find them.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent quackgrass from becoming established.

Mechanical Control

Mechanical weed control involves the physical removal of all parts or just the reproductive parts of weeds.

As a perennial species, quackgrass is difficult to control mechanically. Repeated four-inch-deep tillage beginning in the hottest, driest part of the summer should suppress infestations. The disruption will separate rhizome buds from their parent plants and cause them to sprout, so tillage must be repeated whenever the new plants put out three leaves, throughout the season, to prevent the development of any new rhizomes. This tillage must be repeated annually for good control. It is important to clean roots and root fragments from equipment before entering uninfested areas of the field or other fields to prevent the spread of quackgrass. It is also not practical to clean cultivate over a two-year period because of the resulting wind and water erosion or loss of income due to no crop returns.

Following a sequence of repeated tillage throughout the summer, a fall cover crop should be planted at a seeding rate of 2 to 2.5 bushels per acre.

Chemical Control

The following herbicides may be used for cost share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost share. Be sure to follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of "Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland".

Any two or more of the herbicides listed below may be available for cost share as a pre-mix or a tank mix if allowed on the respective labels. Contact your county weed program for availability.

Herbicide	Mode of Action
diquat	22
fluazifop-p-butyl	1
glyphosate	9
nicosulfuron	2
sethoxydim	1
sulfosulfuron	2

Biological Control

Biological control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant, therefore other control methods must be used in addition to the use of biological control agents as part of an integrated pest management strategy. The importation of biological control agents is regulated by USDA-APHIS and is allowed by permit only.

There are no biological control agents available for quackgrass.

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL CONTROL METHODS FOR KUDZU

Pueraria montana var. lobata (Willd.) Maesen & S.M. Almeida ex Sanjapp & Predeep

Revised May 20, 2020

DESCRIPTION

Kudzu is a long-lived, semi-woody, vine with long runners that can cover the ground and climbing stems that can grow to 100 feet long and envelop nearby shrubs and trees. The long runners root at the nodes to form new plants. Older stems have a rough, bark-like covering and young stems bear abundant, spreading brown hairs. The leaves are alternate and compound with three leaflets; lower leaf surfaces are sparsely hairy while upper leaf surfaces are mostly hairless. Each leaflet is broadly ovate to triangular, 2-10 inches long and up to 6 inches wide, entire or 2-3 lobed and abruptly taper to a pointed tip. Showy, fragrant lavender to purple or reddish flowers up to ½ inch long are borne in short, dense racemes. Seed production is infrequent because of sparse blooming. The seed pods are 1½-3 inches long, papery and densely covered with fine brown hairs. Seeds are reddish-brown and hairy. Flowering and fruiting August-October.

PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all landowners to control the spread of and to eradicate kudzu on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. Infestation sites must be monitored after control methods have been accomplished to ensure that dormant seeds in the seedbank do not germinate and establish new infestations.

KUDZU CONTROL PRACTICES

Kudzu control means that both the roots and the flowers must be destroyed. Because kudzu is a perennial, with the exception of herbicide applications, one or more of the following methods must be used together to control kudzu.

Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

The use of sheep, goats and especially cattle to graze kudzu may be used throughout the growing season. Repeat grazing each year to suppress the plant.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent kudzu from becoming established.

Mechanical Control

Mechanical weed control involves the physical removal of all parts or just the reproductive parts of weeds.

As a perennial species, kudzu is difficult to control mechanically. The only mechanical option for the control of kudzu would be to physically dig out the root crown and all vines in contact with the soil as these will resprout new plants. In larger, well established sites, this would be physically difficult and potentially hazardous. If an area of infestation is cleared, care must be taken to replant desirable species to prevent erosion and provide competition against re-infestation.

Chemical Control

The following herbicides may be used for cost share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost share. Be sure to follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of "Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland".

Any two or more of the herbicides listed below may be available for cost share as a pre-mix or a tank mix if allowed on the respective labels. Contact your county weed program for availability.

Herbicide	Mode of Action
aminopyralid	4
dicamba	4
glyphosate	9
tebuthiuron	7
triclopyr	4

Biological Control

Biological control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant, therefore other control methods must be used in addition to the use of biological control agents as part of an integrated pest management strategy. The importation of biological control agents is regulated by USDA-APHIS and is allowed by permit only.

There are no biological control agents available for kudzu.

KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL CONTROL METHODS FOR RUSSIAN KNAPWEED

Rhaponticum repens (L.) Hidalgo
Revised May 20, 2020

DESCRIPTION

Russian knapweed is a perennial forb that was introduced from Asia. It reproduces by roots, rhizomes and seeds. Stems are up to 3 feet tall, often branched near the base, ridged, covered with soft white or gray hairs, and develop, from a particularly well-developed branching root system. Leaves are alternate and nearly hairless to moderately hairy: rosette and lower stem leaves are oblanceolate to broadly lanceolate or oblong, up to 4 inches long, and deeply lobed to nearly entire; upper stem leaves are progressively smaller, oblong, and toothed or entire. Flowers are all tubular, rose to purple or blue, and borne in flask-shaped heads, about 0.5-0.75 inch long. The heads are solitary on the ends of leafy branches. The seed-like fruits are an ivory to light brown, about 1/8 inch long, flattened, ovate, longitudinally-ridged, and topped with numerous capillary bristles ¼–½ inch long. Flowering from June-August fruiting from August-September.

PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all landowners to control the spread of and to eradicate Russian knapweed on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. Infestation sites must be monitored after control methods have been accomplished to ensure that dormant seeds in the seedbank do not germinate and establish new infestations.

RUSSIAN KNAPWEED CONTROL PRACTICES

Russian knapweed control means that both the roots and the flowers must be destroyed. Because Russian knapweed is a perennial, with the exception of herbicide applications, one or more of the following methods must be used together to control Russian knapweed.

Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

While palatability is considered low, the use of sheep or goats to graze Russian knapweed may be used during the early vegetative to flowering stage then repeated as necessary, after 8 to 10 inches of regrowth, to prevent the production of flowers. Repeat grazing each year to deplete the seedbank and provide control.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent Russian knapweed from becoming established.

Mechanical Control

Mechanical weed control involves the physical removal of all parts or just the reproductive parts of weeds.

As a perennial species, Russian knapweed is difficult to control mechanically. Hand pulling or hoeing can be effective for small, less established infestations of Russian knapweed if repeated whenever the plant emerges during the growing season, over multiple years. Removal is generally easier and more effective in late spring when soil is moist and plants are beginning to bolt (but before seed set). It is very important to pull up all parts of the plant, especially the roots.

Chemical Control

The following herbicides may be used for cost share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost share. Be sure to follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of "Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland".

Any two or more of the herbicides listed below may be available for cost share as a pre-mix or a tank mix if allowed on the respective labels. Contact your county weed program for availability.

Herbicide	Mode of Action
2,4-D LV Ester	4
aminopyralid	4
chlorsulfuron	2
dicamba	4
glyphosate	9
imazapic	2
imazapyr	2
picloram	4

Biological Control

Biological control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant, therefore other control methods must be used in addition to the use of biological control agents as part of an integrated pest management strategy. The importation of biological control agents is regulated by USDA-APHIS and is allowed by permit only.

The following agents are permitted for use on Russian knapweed. Other agents may be available for use if the appropriate permit is obtained.

Aulacidea acroptilonica	bud gall wasp
Jaapiella ivannikovi	bud gall midge
Subanguina picridis	leaf stem gall nematode

Quarantines

BEFORE THE SECRETARY OF AGRICULTURE, TOPEKA, KANSAS

GRECIAN FOXGLOVE QUARANTINE

On this 10th day of May, 2001 the Secretary of the Kansas Department of Agriculture, pursuant to authority authorized by K.S.A. 2-2117, hereby determines that quarantine action is necessary to prevent the further introduction and spread of Grecian foxglove, *Digitalis lanata* Ehrh. into the State of Kansas and within the State of Kansas.

The Secretary does hereby make the following findings relevant to this plant:

WHEREAS, the Kansas Department of Agriculture has determined that *Digitalis lanata* Ehrh., commonly known as Grecian foxglove, is a plant pest as defined in K.S.A. 2-2113.

WHEREAS, the Kansas Department of Agriculture has located established populations of Grecian foxglove in Kansas and is taking official control measures to contain and eradicate this pest.

WHEREAS, Grecian foxglove may reproduce, spread, and survive in Kansas.

WHEREAS, Grecian foxglove has been shown to be lethal to animals consuming small amounts of this plant.

WHEREAS, Grecian foxglove is a terrestrial plant believed to have innate tendencies for invasiveness which requires that an exterior and interior quarantine of Grecian foxglove be established in the State of Kansas.

THE SECRETARY DOES THEREFORE ORDER THAT:

In order to prevent and retard, suppress and control the spread of the plant pest, the movement of Grecian foxglove, *Digitalis lanata* Ehrh. **into the state of Kansas** from any other state of the United States, by any person, is forbidden. Further, the movement of Grecian foxglove, *Digitalis lanata* Ehrh. **within the State of Kansas,** by any person is prohibited, unless authorized as a control measure by the Secretary of Agriculture.

DEFINITIONS

This quarantine shall apply to any "person" as defined by K.S.A. 2-2113, and all other terms used within this quarantine shall have the meanings as defined or established in K.S.A. 2-2113 *et seq*. as amended and supplemented.

REGULATED AREAS

All area within the borders of the State of Kansas shall be subject to the restrictions of this quarantine. As established by K.S.A. 2-2115, "the Secretary shall have the right to enter and inspect any property in the state," for the purpose of enforcement of this act, except private residences, or to inspect any means of conveyance, upon probable cause that it contains material subject to this quarantine.

REGULATED ARTICLES

Grecian foxglove plants or parts of plants capable of growing or propagation are prohibited. Forage, hay or any other commodity containing Grecian foxglove plants or parts of plants shall be subject to the restrictions of this quarantine.

EFFECTIVE DATE OF QUARANTINE

This Order of Quarantine is effective upon the date signed by the Secretary of the Kansas Department of Agriculture as set forth below and shall remain in effect until rescinded or modified by further order of the Secretary.

VIOLATION OF THIS QUARANTINE

Any person who knowingly moves an article in violation of this quarantine may be subject to criminal prosecution pursuant to K.S.A. 2-2124 and 2-2125.

Dated and signed this 10th day of May, 2001.

Jamie Clover Adams

Jamie Clover Adams, Secretary of Agriculture

BEFORE THE SECRETARY OF AGRICULTURE, TOPEKA, KANSAS

PURPLE LOOSESTRIFE QUARANTINE

On this 2ND day of May, 2002 the Secretary of the Kansas Department of Agriculture, pursuant to authority authorized by K.S.A. 2-2117, hereby determines that quarantine action is necessary to prevent the further introduction and spread of Purple Loosestrife into the State of Kansas and within the State of Kansas.

The Secretary does hereby make the following findings relevant to this plant:

WHEREAS, the Kansas Department of Agriculture has determined that Purple Loosestrife, is a plant pest as defined in K.S.A. 2-2113.

WHEREAS, the Kansas Department of Agriculture has located established populations of non-cultivated Purple Loosestrife in Kansas and public agencies in Kansas are currently committing resources to control populations of Purple Loosestrife in environmentally sensitive areas on public lands.

WHEREAS, Purple Loosestrife may reproduce, spread, and survive in Kansas.

WHEREAS, twenty-eight other states have taken regulatory action to limit the introduction and/or spread of Purple Loosestrife in Kansas.

WHEREAS, Purple Loosestrife is a terrestrial plant believed to have innate tendencies for invasiveness which requires that an exterior and interior quarantine of Purple Loosestrife be established in the State of Kansas.

THE SECRETARY DOES THEREFORE ORDER THAT:

In order to prevent and retard, suppress and control the spread of the plant pest, the movement of Purple Loosestrife **into the state of Kansas** from any other state of the United States, by any person, is forbidden. Further, the movement of Purple Loosestrife, **within the State of Kansas,** by any person is prohibited, unless authorized as a control measure by the Secretary of Agriculture.

DEFINITIONS

This quarantine shall apply to any "person" as defined by K.S.A. 2-2113, and all other terms used within this quarantine shall have the meanings as defined or established in K.S.A. 2-2113 *et seq.* as amended and supplemented.

REGULATED AREAS

All area within the borders of the State of Kansas shall be subject to the restrictions of this quarantine. As established by K.S.A. 2-2115, "the Secretary shall have the right to enter and inspect any property in the state," for the purpose of enforcement of this act, except private residences, or to inspect any means of conveyance, upon probable cause that it contains material subject to this quarantine.

REGULATED ARTICLES

For the purposes of this quarantine, "Purple Loosestrife" shall mean all species and hybrids of *Lythrum* except *Lythrum alatum* and *Lythrum californicum.* Purple Loosestrife plants or parts of plants capable of growing or propagation are prohibited. Forage, hay or any other commodity containing Purple Loosestrife plants or parts of plants shall be subject to the restrictions of this quarantine.

EFFECTIVE DATE OF QUARANTINE

This Order of Quarantine shall become effective January 1, 2003, and shall remain in effect until rescinded or modified by further order of the Secretary.

VIOLATION OF THIS QUARANTINE

Any person who knowingly moves an article in violation of this quarantine may be subject to criminal prosecution pursuant to K.S.A. 2-2124 and 2-2125.

Dated and signed this 2nd day of May, 2002.

Jamie Clover Adams

Jamie Clover Adams, Secretary of Agriculture

BEFORE THE SECRETARY OF AGRICULTURE, TOPEKA, KANSAS

TAMARIX QUARANTINE

On this 23rd day of March, 2006 the Secretary of the Kansas Department of Agriculture, pursuant to authority authorized by K.S.A. 2-2117, hereby determines that quarantine action is necessary to prevent the further introduction of *Tamarix* spp. into the State of Kansas and also the further spread of Tamarix ssp. within the State of Kansas.

The Secretary does hereby make the following findings relevant to this plant:

WHEREAS, the Kansas Department of Agriculture has determined that *Tamarix* spp. are plant pests as defined in K.S.A. 2-2113;

WHEREAS, the Kansas Department of Agriculture has located established non-cultivated populations of *Tamarix* spp. in Kansas;

WHEREAS, *Tamarix* spp. may reproduce, survive, and spread in Kansas.

WHEREAS, *Tamarix* spp. is known to deplete certain water resources in Kansas;

WHEREAS, *Tamarix* spp is a terrestrial plant believed to have innate tendencies for invasiveness which requires that an exterior and interior quarantine of *Tamarix* spp. be established in the State of Kansas;

WHEREAS, public agencies and private landowners are committing resources to control populations of *Tamarix* spp. in Kansas.

THE SECRETARY DOES THEREFORE ORDER THAT:

In order to prevent, retard, suppress, and control the spread of *Tamarix* spp in the Kansas, the movement of *Tamarix* spp into the State of Kansas from any other state of the United States by any person is forbidden. Further, the movement of *Tamarix* spp. within the State of Kansas by any person is prohibited unless authorized as a control measure by the Secretary of Agriculture.

DEFINITIONS

This quarantine shall apply to any "person" as defined by K.S.A. 2-2113, and all other terms used within this quarantine shall have the meanings as defined or established in K.S.A. 2-2113 et seq. as amended and supplemented.

Tamarix spp. means any and all species of plants classified in the genus *Tamarix* including species with the common names salt cedar and tamarisk.

REGULATED AREAS

All area within the borders of the State of Kansas shall be subject to the restrictions of this quarantine. As established by K.S.A. 2-2115, the Secretary shall have the right to enter and inspect any property in the state for the purpose of enforcement of this act, except for private residences, or to inspect any means of conveyance, upon probable cause that it contains material subject to this quarantine.

REGULATED ARTICLES

Tamarix spp. plants or parts of plants capable of growing or propagation are prohibited. Forage, hay, or any other commodity containing *Tamarix* spp. plants or parts of plants shall be subject to the restrictions of this quarantine.

EFFECTIVE DATE OF QUARANTINE

This order will become effective upon issuance and shall remain in effect until rescinded or modified by further order of the Secretary of the Kansas Department of Agriculture.

VIOLATION OF THIS QUARANTINE

Any person who knowingly moves an article in violation of this quarantine may be subject to prosecution pursuant to K.S.A. 2-2124 and 2-2125.

Dated and signed this 23rd day of March, 2006.

Adrian J. Polansky

Adrian J. Polansky, Secretary of Agriculture

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Mike Beam, Secretary

Laura Kelly, Governor

BEFORE THE SECRETARY OF AGRICULTURE, MANHATTAN, KANSAS

FEDERAL NOXIOUS WEED QUARANTINE

The Secretary of the Kansas Department of Agriculture, pursuant to K.S.A. 2-2117, a provision of the Plant Pest and Agriculture Commodity Certification Act ("Act"), hereby determines that quarantine action is necessary to prevent the further introduction and spread of those weeds designated noxious by federal regulation into and within the State of Kansas.

The Secretary does hereby make the following findings relevant to such federally designated noxious weeds:

WHEREAS, the U.S. Department of Agriculture (USDA); Animal and Plant Health Inspection Service (APHIS); and Plant Protection arid Quarantine (PPQ) has designated the species of plants listed in 7 CFR 360.200 as noxious weeds pursuant to the federal Plant Protection Act (7 U.S.C.A. § 7701, *et seq.*);

WHEREAS, the Kansas Department of Agriculture has determined that all such federally designated noxious weeds are plant pests as defined in the Act; and

WHEREAS, these federally designated noxious weeds have innate tendencies for invasiveness, which requires the establishment of an internal and external quarantine of all such weeds in the State of Kansas.

THE SECRETARY DOES THEREFORE ORDER THAT:

In order to prevent, retard, suppress, and control the spread of plant pests, the movement of all weeds identified in 7 CFR 360.200 and listed herein into the State of Kansas from any other state of the United States, by any person is prohibited. Further, the movement of all such weeds within the State of Kansas by any person is prohibited.

DEFINITIONS:

This quarantine shall apply to any "person" as defined by K.S.A. 2-2113, to include a corporation, company, society, association, partnership, governmental agency, and any individual or combination of individuals. All other terms used within this quarantine shall have the meanings given those terms in K.S.A. 2-2113 *et seq.*, as amended.

REGULATED ARTICLES:

The weed species designated noxious by 7 CFR 360.200 and subject to the terms of this quarantine are as follows:

(a) Aquatic and wetland weeds:
Azolla pinnata R. Brown (mosquito fern, water velvet)
Caulerpa taxifolia (Vahl) C. Agardh, Mediterranean strain (killer algae)
Eichhornia azurea (Swartz) Kunth
Hydrilla verticillata (Linnaeus f.) Royle (hydrilla)
Hygrophila polysperma T. Anderson (Miramar weed)
Ipomoea aquatica Forsskal (water-spinach, swamp morning-glory)
Lagarosiphon major (Ridley) Moss
Limnophila sessiliflora (Vahl) Blume (ambulia)
Melaleuca quinquenervia (Cavanilles) S.T. Blake
Monochoria hastata (Linnaeus) Solms-Laubach
Monochoria vaginalis (Burman f.) C. Presl
Ottelia alismoides (L.) Pers.
Sagittaria sagittifolia Linnaeus (arrowhead)
Salvinia auriculata Aublet (giant salvinia)
Salvinia biloba Raddi (giant salvinia)
Salvinia herzogii de la Sota (giant salvinia)
Salvinia molesta D.S. Mitchell (giant salvinia)
Solanum tampicense Dunal (wetland nightshade)
Sparganium erectum Linnaeus (exotic bur-reed)

(b) *Parasitic weeds:*
Aeginetia spp.
Alectra spp.
Cuscuta spp. (dodders), other than following species:
Cuscuta americana Linnaeus
Cuscuta applanata Engelmann
Cuscuta approximata Babington
Cuscuta attenuata Waterfall
Cuscuta boldinghii Urban
Cuscuta brachycalyx (Yuncker) Yuncker
Cuscuta californica Hooker & Arnott
Cuscuta campestris Yuncker
Cuscuta cassytoides Nees ex Engelmann
Cuscuta ceanothi Behr
Cuscuta cephalanthi Engelmann
Cuscuta compacta Jussieu
Cuscuta coryli Engelmann
Cuscuta cuspidata Engelmann
Cuscuta decipiens Yuncker
Cuscuta dentatasquamata Yuncker
Cuscuta denticulata Engelmann
Cuscuta epilinum Weihe
Cuscuta epithymum (Linnaeus) Linnaeus
Cuscuta erosa Yuncker

Cuscuta europaea Linnaeus
Cuscuta exaltata Engelmann
Cuscuta fasciculata Yuncker
Cuscuta glabrior (Engelmann) Yuncker
Cuscuta globulosa Bentham
Cuscuta glomerata Choisy
Cuscuta gronovii Willdenow
Cuscuta harperi Small
Cuscuta howelliana Rubtzoff
Cuscuta indecora Choisy
Cuscuta leptantha Engelmann
Cuscuta mitriformis Engelmann
Cuscuta obtusiflora Kunth
Cuscuta odontolepis Engelmann
Cuscuta pentagona Engelmann
Cuscuta planiflora Tenore
Cuscuta plattensis A. Nelson
Cuscuta polygonorum Engelmann
Cuscuta rostrata Shuttleworth ex Engelmann & Gray
Cuscuta runyonii Yuncker
Cuscuta salina Engelmann
Cuscuta sandwichiana Choisy
Cuscuta squamata Engelmann
Cuscuta suaveolens Seringe
Cuscuta suksdorfii Yuncker
Cuscuta tuberculata Brandegee
Cuscuta umbellata Kunth
Cuscuta umbrosa Beyrich ex Hooker
Cuscuta veatchii Brandegee
Cuscuta warneri Yuncker

Orobanche spp. (broomrapes), other than the following species:
Orobanche bulbosa (Gray) G. Beck
Orobanche californica Schlechtendal & Chamisso
Orobanche cooperi (Gray) Heller
Orobanche corymbosa (Rydberg) Ferris
Orobanche dugesii (S. Watson) Munz
Orobanche fasciculata Nuttall
Orobanche ludoviciana Nuttall
Orobanche multicaulis Brandegee
Orobanche parishii (Jepson) Heckard
Orobanche pinorum Geyer ex Hooker
Orobanche uniflora Linnaeus
Orobanche valida Jepson
Orobanche vallicola (Jepson) Heckard

Striga spp. (witchweeds)

(c) *Terrestrial weeds:*

Acacia nilotica (Linnaeus) Wildenow ex Delile (gum arabic tree, thorny acacia)
Ageratina adenophora (Sprengel) King & Robinson (crofton weed)
Ageratina riparia (Regel) R.M. King and H. Robinson (creeping croftonweed, mistflower)

Alternanthera sessilis (Linnaeus) R. Brown ex de Candolle (sessile joyweed)
Arctotheca calendula (Linnaeus) Levyns (capeweed)
Asphodelus fistulosus Linnaeus (onionweed)
Avena sterilis Linnaeus (including *Avena ludoviciana* Durieu) (animated oat, wild oat)
Carthamus oxyacantha M. Bieberstein (wild safflower)
Chrysopogon aciculatus (Retzius) Trinius (pilipiliula)
Commelina benghalensis Linnaeus (Benghal dayflower)
Crupina vulgaris Cassini (common crupina)
Digitaria abyssinica (Hochstetter ex A. Richard) Stapf (African couchgrass, fingergrass)
Digitaria velutina (Forsskal) Palisot de Beauvois (velvet fingergrass, annual couchgrass)
Drymaria arenariodes Humboldt & Bonpland ex J.A. Schultes (lightning weed)
Emex australis Steinheil (three-cornered jack)
Emex spinosa (Linnaeus) Campdera (devil's thorn)
Euphorbia terracina Linnaeus (false caper, Geraldton carnation weed)
Galega officinalis Linnaeus (goatsrue)
Heracleum mantegazzianum Sommier & Levier (giant hogweed)
Imperata brasiliensis Trinius (Brazilian satintail)
Imperata cylindrica (Linnaeus) Palisot de Beauvois (cogongrass)
Inula britannica Linnaeus (British elecampane, British yellowhead)
Ischaemum rugosum Salisbury (murainograss)
Leptochloa chinensis (Linnaeus) Nees (Asian sprangletop)
Lycium ferocissimum Miers (African boxthorn)
Lygodium flexuosum (Linnaeus) Swartz (maidenhair creeper)
Lygodium microphyllum (Cavanilles) R. Brown (Old World climbing fern)
Melastoma malabathricum Linnaeus
Mikania cordata (Burman f.) B. L. Robinson (mile-a-minute)
Mikania micrantha Kunth
Mimosa diplotricha C. Wright (giant sensitive-plant)
Mimosa pigra Linneaus var. *pigra* (catclaw mimosa)
Moraea collina Thunberg (apricot Cape-tulip)
Moraea flaccida (Sweet) Steudel (one-leaf Cape-tulip)
Moraea miniata Andrews (two-leaf Cape-tulip)
Moraea ochroleuca (Salisbury) Drapiez (red Cape-tulip)
Moraea pallida (Baker) Goldblatt (yellow Cape-tulip)
Nassella trichotoma (Nees) Hackel ex Arechavaleta (serrated tussock)
Onopordum acaulon Linnaeus (stemless thistle)
Onopordum illyricum Linnaeus (Illyrian thistle)
Opuntia aurantiaca Lindley (jointed prickly pear)
Oryza longistaminata A. Chevalier & Roehrich (red rice)
Oryza punctata Kotschy ex Steudel (red rice)
Oryza rufipogon Griffith (red rice)
Paspalum scrobiculatum Linnaeus (Kodo-millet)
Pennisetum clandestinum Hochstetter ex Chiovenda (kikuyugrass)
Pennisetum macrourum Trinius (African feathergrass)
Pennisetum pedicellatum Trinius (kyasumagrass)
Pennisetum polystachion (Linnaeus) Schultes (missiongrass, thin napiergrass)
Prosopis alpataco R. A. Philippi

Prosopis argentina Burkart
Prosopis articulata S. Watson
Prosopis burkartii Munoz
Prosopis caldenia Burkart
Prosopis calingastana Burkart
Prosopis campestris Griseback
Prosopis castellanosii Burkart
Prosopis denudans Bentham
Prosopis elata (Burkart) Burkart
Prosopis farcta (Banks & Solander) J.F. Macbride
Prosopis ferox Grisebach
Prosopis fiebrigii Harms
Prosopis hassleri Harms
Prosopis humilis Gillies ex Hooker & Arnott
Prosopis kuntzei Harms
Prosopis pallida (Humboldt & Bonpland ex Willdenow) Kunth
Prosopis palmeri S. Watson
Prosopis reptans Bentham var. *reptans*
Prosopis rojasiana Burkart
Prosopis ruizlealii Burkart
Prosopis ruscifolia Grisebach
Prosopis sericantha Gillies ex Hooker & Arnott
Prosopis strombulifera (Lamarck) Bentham
Prosopis torquata (Cavanilles ex Lagasca y Segura) de Candolle
Rottboellia cochinchinensis (Lour.) W. Clayton
Rubus fruticosus Linnaeus (complex) (wild blackberry)
Rubus moluccanus Linnaeus (wild raspberry)
Saccharum spontaneum Linnaeus (wild sugarcane)
Salsola vermiculata Linnaeus (wormleaf salsola)
Senecio inaequidens DC. (South African ragwort)
Senecio madagascariensis Poir. (Madagascar ragwort)
Setaria pumila (Poir.) Roem. & Schult. subsp. *pallidefusca* (Schumach.) B.K. Simon (cattail grass)
Solanum torvum Swartz (turkeyberry)
Solanum viarum Dunal (tropical soda apple)
Spermacoce alata Aublet
Tridax procumbens Linnaeus (coat buttons)
Urochloa panicoides Beauvois (liverseed grass)

Entire plants and all parts of plants of any federally designated noxious weed identified in the foregoing list that are capable of growing or propagating, as well as forage, hay, or any other commodity containing the same shall be subject to the terms of this quarantine.

7 CFR 360.200 can be viewed in its entirety at https://www.ecfr.gov/cgi-bin/text-idx?SID=c6eba29e3932c7e6adbc87fbdb0fe412&mc=true&node=se7.5.360_1200&rgn=div8. One or more of the common names of the weeds listed above are given in parentheses after most scientific names to aid in identifying the weeds represented by such scientific names.

QUARANTINED AREAS:

All areas within the borders of the State of Kansas shall be subject to the restrictions of this quarantine. Pursuant to K.S.A. 2-2115, for the purpose of enforcement of the Plant Pest and Agriculture Commodity Certification Act, the Secretary shall have the right to enter and inspect any property in the state, except private dwellings, or to stop and inspect any means of conveyance moving within the state, upon reasonable suspicion that it contains or carries regulated articles subject to this quarantine.

EFFECTIVE DATE OF QUARANTINE:

This Permanent Quarantine shall become effective on the date of signature and shall remain in effect until rescinded or modified by further order of the Secretary. This Quarantine **rescinds** the following prior Quarantine:

Federal Noxious Weed Quarantine issued on January 22, 2004.

VIOLATION OF THIS QUARANTINE:

Any person who knowingly moves an article in violation of this quarantine may be subject to any civil or criminal penalty provided for in K.S.A. 2-2124 or K.S.A. 2-2125.

IT IS SO ORDERED THIS 1st **DAY OF** July **2021 IN MANHATTAN, RILEY COUNTY, KANSAS.**

Michael M. Beam

Michael M. Beam, Secretary
Kansas Department of Agriculture

APPENDIX C. NOXIOUS WEED ACREAGES

Estimated Acreage of Noxious Weeds in Kansas 2021

Category A	
Hoary cress	2,871
Leafy spurge	617
Pignut	210
Quackgrass	60
Kudzu	-
Russian knapweed	-
Category B	
Canada thistle	9,210
Category C	
Field bindweed	1,129,339
Musk thistle	463,155
Johnsongrass	415,060
Sericea lespedeza	658,897
Bur ragweed	138,978
Total	**2,818,398**

APPENDIX D: RISK ASSESSMENT

Kansas Weed Risk Assessment Form

Instructions

For each species assessed, complete the Weed Risk Assessment Form including the Introduction page, the four documentation tables and the three worksheets. Worksheets need to be filled out in order to complete certain questions in the documentation tables. All gray cells should be filled in for each of the introduction, tables and worksheets. If the question is not applicable to the species being evaluated, enter "N/A" for that question.
The bottom section of the Introduction page and the Decision Matrix page will be filled out by the Noxious Weed Advisory Committee only.

Introduction Page

Fill out ONLY the gray cells with the information requested.

For the Common names request, enter the accepted common name in the left-hand cell and any other known common names in the right-hand cell. Use the Weed Science Society of America's Composite List of Weeds database at http://wssa.net/weed/composite-list-of-weeds/ to determine the accepted common name.
The bottom section of the Introduction page will be filled out by the Noxious Weed Advisory Committee only.

Documentation Tables

For the documentation tables, answer the questions by selecting the most appropriate response based upon the Scoring Guidelines to the right of each question block. Select the correct letter code from the drop down box in the cell immediately to the right of each question.
Questions 2.4, 3.3, 4.1 and 4.2 can only be answered by completing the appropriate worksheets on the Worksheets page. The appropriate letter code will be entered into the documentation table automatically. DO NOT enter a code into the table for these questions without first filling out the worksheet.
Below each question on the documentation tables are sections into which you should enter key information for each particular criteria question, summarize the rationale for the score assigned and cite the sources of information.
Citations should provide complete bibliographic information for published materials, and contact information and observation dates for anecdotal reports. Identify major gaps in information that could be critical for improving the accuracy of answering the particular question for this species, and indicate whether out-of-state information was used as a basis for documenting ecological impact (enter this information in the “Rationale” section for each question). Enter text directly into the gray cells. Attach additional sheets, formatted similarly, to supplement information and documentation that cannot fit into the documentation tables.

Worksheets

In the worksheets, provide the requested information by selecting the most appropriate response based upon the Answer Codes to the right of each question block. Select the correct letter code from the drop down box in the cell immediately to the right of each question.
Provide additional pertinent information in the "Note any related traits" cell at the bottom of each worksheet. Enter "N/A" if no additional information is available.

Do not enter information into any forms on any pages other than those listed above.

If you have any questions, contact Scott Marsh by phone or email at the following address.

1320 Research Park Dr., Manhattan, KS 66502
scott.marsh@kda.ks.gov
(785) 207-2118

Kansas Weed Risk Assessment Form

09/2021

Species and Evaluator Information

Species name (Latin binomial)**:**		
Common names:		
Common Synonyms (optional)**:**		

Evaluation date (mm/dd/yyyy):	
Primary Evaluator Name:	
Title:	
Affiliation:	
Phone numbers:	
Email address:	

Other Evaluators:		

DO NOT FILL OUT BELOW

Scoring		**Listing Recommendation**			
Wildlands Plant Score	_____	☐ Category A	☐ Category B	☐ Category C	
Agricultural Plant Score	_____	☐ Watch List	☐ Do Not List	☐ Other	_____

_____ _____

Primary Evaluator Signature **Date**

Section below for Noxious Weed Advisory Committee use only - Leave blank

List committee members:	
Committee review date:	
List date:	
Re-evaluation date(s):	

Definitions/Descriptions from Plant Assessment Form

Overall Rating description

A	High	These species have severe ecological impacts on physical processes, plant and animal communities and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. These species are usually widely distributed ecologically, both among and within ecosystems.
B	Moderate	These species have substantial and apparent - but generally not severe - ecological impacts on ecosystems, plant and animal communities and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
C	Low	These species are invasive but their ecological impacts are minor on a statewide level or there is not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Noxious Weed classification descriptions

Category A	Noxious weed species that are generally not found or that are limited in distribution throughout the state and are subject to exclusion from the state and active eradication wherever detected statewide in order to protect neighboring lands and the state as a whole.
Category B	Noxious weed species with discrete statewide distributions that are subject to control in portions of the state where populations have become established.
Category C	Well-established noxious weed species that are known to exist in larger or more extensive populations throughout the state. Control efforts shall be directed at reducing or eliminating new populations while known and established populations shall be managed by any approved control method.
Watch List	Species which may or may not occur in the state and which may pose a threat to the state's agriculture and/or native plant communities; for which information regarding distribution and/or invasive behavior is currently inadequate to make a listing decision. Additional monitoring is required for these species. Control efforts are recommended but not required at this time.

Impacts

Question 1.1 Impact on abiotic ecosystem processes		
Identify ecosystem processes impacted:		
Rationale:		
Sources of information:		

Question 1.2 Impact on plant community composition, structure and interactions		
Identify type of impact or alteration:		
Rationale:		
Sources of information:		

Question 1.3 Impact on higher trophic levels		
Identify type of impact or alteration:		
Rationale:		
Sources of information:		

Question 1.4 Impact on genetic integrity		
Identify impacts:		
Rationale:		
Sources of information:		

Impacts Scoring Guidelines

Consider the impact on the natural range and variation of abiotic ecosystem processes and system-wide parameters in ways that significantly diminish the ability of native species to survive and reproduce. Alterations that determine the types of communities that can exist in a given area are of greatest concern.

A Severe, possibly irreversible, alteration or disruption of an ecosystem process.
B Moderate alteration of an ecosystem process.
C Minor alteration of an ecosystem process.
D Negligible perceived impact on an ecosystem process.
U Unknown

Consider the cumulative ecological impact of this species to the plant communities it invades. Give more weight to changes in plant composition, structure, and interactions that involve rare or keystone species or rare community types.

A Severe alteration of plant community composition, structure, or interactions.
B Moderate alteration of plant community composition.
C Minor alteration of community composition.
D Negligible impact known; causes no perceivable change in community composition, structure, or interactions.
U Unknown

Consider the cumulative impact of the species on all organisms in the communities that it invades. Although the species may provide resources for a few native species (food, nesting sites, etc.), base the ranking on the species' net impact on all native species. Give more weight to changes in composition and interactions involving rare or keystone species or community types.

A Severe alteration of higher trophic populations, communities, or interactions.
B Moderate alteration of higher trophic level populations, communities, or interactions.
C Minor alteration of higher trophic level populations, communities or interactions.
D Negligible impact on higher trophic level populations, communities, or interactions.
U Unknown

proportion of individuals with non-native genes within populations of native species. Mechanisms and possible outcomes include:
- production of fertile or sterile hybrids or introgressants that can outcompete the native species;
- production of sterile hybrids or introgressants that lower the reproductive output of the native species.

A Severe (high proportion of individuals).
B Moderate (medium proportion of individuals).
C Minor (low proportion of individuals).
D No known hybridization.
U Unknown

Invasiveness

Question 2.1 Role of anthropogenic and natural disturbance in establishment		
Describe role of disturbance:		
Rationale:		
Sources of information:		

Question 2.2 Local rate of spread with no management		
Describe rate of spread:		
Rationale:		
Sources of information:		

Question 2.3 Recent trend in total area **(range)** infested within the state		
Describe trend:		
Rationale:		
Sources of information:		

Question 2.4 Innate reproductive potential (Use Worksheet A)		
Describe key reproductive characteristics:		
Rationale:		
Sources of information:		

Question 2.5 Potential for human-caused dispersal		
Identify dispersal mechanisms:		
Rationale:		
Sources of information:		

Question 2.6 Potential for natural long-distance dispersal		
Identify dispersal mechanisms:		
Rationale:		
Sources of information:		

Question 2.7 Other regions invaded		
Identify other regions:		
Rationale:		
Sources of information:		

Invasiveness Scoring Guidelines

Assess this species' dependence on disturbance—both human and natural—for establishment in wildlands.
A Severe invasive potential - can establish without natural or man-made disturbance. B Moderate invasive potential - may occasionally establish in undisturbed areas but can readily establish with natural disturbances. C Low invasive potential - requires anthropogenic disturbance to establish. D No perceptible invasive potential - does not establish in wildlands (but may persist from former cultivation). U Unknown

Assess this species' rate of spread in existing localized infestations where the proportion of available habitat invaded is still small when no management measures are implemented.
A Increases rapidly (doubling in <10 years) B Increases, but less rapidly C Stable D Declining U Unknown

Assess the overall trend in the total area infested by this species statewide. Include current management efforts in this assessment and note them.
A Increasing rapidly (doubling in total range statewide in <10 years) B Increases, but less rapidly C Stable D Declining U Unknown

Using Worksheet A, assess the innate reproductive potential of this species by counting the attributes below that apply to this species. (Note any other related traits this species possesses.)

Assess whether this species is currently spread—or has high potential to be spread—by direct or indirect human activity. Such activity may enable the species to overcome natural barriers to dispersal that would not be crossed otherwise, or it may simply increase the natural dispersal of the species.

A High - there are numerous opportunities for dispersal to new areas.
B Moderate - human dispersal occurs, but not at a high level.
C Low - human dispersal is infrequent or inefficient.
D Does not occur.
U Unknown

We have chosen 1 km as the threshold of "long-distance." Assess whether this species is frequently spread, or has high potential to be spread, by animals or abiotic mechanisms that can move seed, roots, stems, or other propagules this far.

A Frequent long-distance dispersal by animals or abiotic mechanisms.
B Occasional long-distance dispersal by animals or abiotic mechanisms.
C Rare dispersal more than 1 km by animals or abiotic mechanisms.
D No dispersal of more than 1 km by animals or abiotic mechanisms.
U Unknown

Assess whether this species has invaded vegetation classes in other states or countries outside its native range that are analogous to vegetation classes not yet invaded in your state (see Worksheet C for lists of vegetation classes). This information is useful in predicting the likelihood of further spread within your state.

A Has invaded 3 or more vegetation classes that exist in KS but is not in KS.
B Invades 1 or 2 vegetation classes that exist but are not yet invaded in KS.
C Invades elsewhere but only in vegetation classes that it has already invaded in KS.
D Not known as an escape anywhere else.
U Unknown

Agricultural / Human Impacts

Question 3.1 Poisonous to livestock		
Describe impacts in terms of high probability of death, long-term health impacts or short-term health impacts:		
Rationale:		
Sources of information:		

Question 3.2 Detrimental to economic crops		
Describe impacts to all aspects of cropping systems (see guidelines):		
Rationale:		
Sources of information:		

Question 3.3 Human health impacts (Use Worksheet B)		
Describe key human impacts such as; irritants, property values, recreational values and industry impacts:		
Rationale:		
Sources of information:		

Question 3.4 Detrimental to management of agricultural, rangeland, pasture or aquatic system.		
Describe impacts to water diversion systems, increased water use, increased potential for wildfire,		
Rationale:		
Sources of information:		

Agricultural / Human Impacts Scoring Guidelines

Assess the level of toxicity this species poses to livestock if ingested.

A Severe impact – high probability of death; highly toxic compounds exist in plant parts
B Moderate – long-term health impacts might occur, death not as probable unless large amounts ingested – cumulative
C Minor – short-term health impacts, impacts reversible, ingestion of any amount not deadly.
D Negligible – no toxic compounds exist in plant
U Unknown

Consider the threats that the species poses to economic crops including reduced production and crop yields, cost and long-term impact of control techniques, whether or not the species is a carrier of detrimental insects, diseases or parasites, and whether the genetic integrity of crop species is compromised.

A Severe impact
B Moderate impact
C Minor impact
D Negligible
U Unknown

Use Worksheet B to assess the human impact potential of this species by recording the attributes that apply to this species.

Assess the impact the species has on agriculture systems, rangeland and pasture. Consider water diversion systems, increased water use due to infestations, increased potential for wildfire, and reduced forage for livestock.

A Severe impact
B Moderate
C Minor
D Negligible
U Unknown

Complete Worksheet C to determine the scoring for the following questions

Distribution

Question 4.1 Ecological amplitude (Use Worksheet C)		
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known:		
Rationale:		
Sources of information:		

Question 4.2 Distribution (Use Worksheet C)		
Describe distribution:		
Rationale:		
Sources of information:		

Distribution Scoring Guidelines

Worksheet C will provide the score based on the number of different ecological types that this species currently invades in Kansas.
This species has invaded Vegetation classes and Vegetation communities
A Widespread - the species invades at least five classes or at least six communities. B Moderate - the species invades three classes or five communities. C Limited - the species invades only two class and two to three communities. D Narrow - the species invades only one community or has not yet invaded any communities. U Unknown

Worksheet B will provide a distribution score, based on the highest percent infestation score for the vegetation classes.

Worksheet A

Complete this worksheet to answer Question 2.4

Reaches reproductive maturity in 2 years or less			
Dense infestations produce >1,000 viable seeds per square meter			
Populations of this species produce seeds every year			
Seed production sustained for 3 or more months within a population annually			
Seeds remain viable in soil for 3 or more years			
Viable seed produced with *both* self-pollination and cross-pollination			
Has quickly spreading vegetative structures (rhizomes, roots. etc.) that may root at nodes			
Fragments easily and fragments can become established elsewhere			
Resprouts readily when cut, grazed or burned			
	Score	Total points	Total unknowns
Note any related traits:			

Worksheet B

Complete this worksheet to answer Question 3.3

Human health impacts; irritants (sap), spines, poisonous and/or smoke impacts			
Property values are decreased due to increased risk of fire			
Property values are decreased due to moderate to heavy infestations			
Decreased land value for recreational use; boating, fishing, hunting, etc.			
Impact of listing detrimental to industry; agriculture, horticulture, nursery and/or seed			
	Score	Total points	Total unknowns
Note any related traits:			

Worksheet Answer Codes

Assess the innate reproductive potential of this species by counting the attributes below that apply to this species. (Note any other related traits this species possesses.)
Yes No Unknown

Using Worksheet B to assess distribution, record the letter in the worksheet that corresponds to the highest percent infested score for each of the ecological types.
Yes No Unknown

Worksheet C

Complete this worksheet to answer Question 4.2

Vegetation Class: Natural / Near Natural	Vegetation Community	Code
Riverine	Intermittent Stream, Spring, Creek, Stream, River	
Lacustrine	Lake, Pond, Reservoir	
Sparse Vegetation	Cliffs, Buttes, Sandbars, Sand Flats, Glades	
Herbaceous	Tallgrass Prairie	
	Sand Prairie	
	Mixed Prairie	
	Shortgrass Prairie	
	Marsh (permanent or ephemeral), Wetland, Seep	
Shrubland	Upland Shrubland (Sandsage-sand bluestem, Sandsage-little bluestem, Sandsage-grama, Saltbush-grama)	
	Floodplain Shrubland (Buttonbush, Willow-grass)	
Woodland	Upland Woodland (Post oak-black-jack oak, Mixed oak ravine)	
	Floodplain Woodland (Mixed oak, Oak, Cottonwood-Willow, Cottonweed, Cottonweed-switch grass)	
Forest	Upland Forest (Maple-basswood, Ozark, Oak-hickory, Post oak-black-jack oak)	
	Floodplain Forest (Pecan-hackberry, Ash-elm-hackberry, Cottonwood-sycamore, Cottonwood-black willow, Mixed oak)	
Vegetation Class: Semi-Natural / Altered		**Code**
Abandoned Cropland		
Cool-Season Hay Meadow		
Rights-of-Way	Roads, Railroads, Power lines, Fence lines	
Vegetation Class: Cultivated / Planted	**Vegetation Community**	**Code**
Irrigated Crops	Forage Crops	
	Row Crops	
Dryland Crops	Forage Crops	
	Row Crops	
Tree Plantations	Pecan/Walnut Groves, Fruit Orchards, Vineyards	
Hedgerow / Windbreak		
Lawn/Parkland		
	Score	

Refer to the worksheet and select the one letter that indicates the percentage of each vegetation community type that is currently invaded.
A >50% of type occurrences are invaded
B 20% to 50% of type occurrences are invaded
C 5% to 20% of type occurrences are invaded
D <5% of type occurrences are invaded
X Does not or probably will not invade
U Unknown percentage of occurences invaded

Definitions	
Riverine	Pertaining to waters enclosed by channel banks
Lacustrine	Pertaining to waters associated with lakes, ponds, and reservoirs
Sparse vegetation	Vegetation scattered or nearly absent; total vegetation cover <10%
Herbaceous	With grasses and/or forbs >25% cover and woody cover <25%
Shrubland	Dominated by shrubs or trees 0.5-5 m tall and >25% canopy cover
Woodland	Dominated by trees >5 m tall and 26-60% canopy cover
Forest	Dominated by trees >5 m tall and 61-100% canopy cover

Criteria, Section and Overall Score

IMPACTS			
1.1	Impact on abiotic ecosystem processes		
1.2	Impact on plant community		
1.3	Impact on higher trophic levels		
1.4	Impact on genetic integrity		

IMPACT SCORE

INVASIVENESS			
2.1	Role of anthropogenic and natural disturbance		
2.2	Local rate of spread with no management		
2.3	Recent trend in total area infested within the state		
2.4	Innate reproductive potential Worksheet A		
2.5	Potential for human-caused dispersal		
2.6	Potential for natural long-distance dispersal		
2.7	Other regions infested		

INVASIVENESS SCORE

AGRICULTURAL / HUMAN IMPACTS			
3.1	Poisonous to livestock		
3.2	Detrimental to economic crops		
3.3	Human impacts - Worksheet B		
3.4	Detrimental to management of agricultural system, rangeland and pasture		

AGRICULTURAL / HUMAN IMPACTS SCORE

DISTRIBUTION			
4.1	Ecological amplitude		
4.2	Distribution - Worksheet C		

DISTRIBUTION SCORE

AGRICULTURAL PLANT SCORE

WILDLANDS PLANT SCORE

Kansas Noxious Weed Listing Decision Matrix

Common name _____

Scientific name _____

Plant Assessment Scoring		Comments
Impacts		
Invasive potential		
Agricultural impacts		
Distribution		
Wildland rating		
Agricultural rating		

Regions of concern

Habitats of concern

		Comments
Any Threatened and Endangered Species issues or concerns?		
Federal Noxious weed?		

Conditions that favor spread in KS:

Likelihood / risk of invasion in KS:

Approximate current infestation in KS

For species known to exist in Kansas:

Life Cycle?

What number or range of seeds are produced annually?

Enforcement procedures exist?

What are they?

Background of species discovery/initial assessment

Economic costs of listing

Economic benefits of listing

Risks of not listing

Advisory committee actions:

External stakeholders contacted:

Comments from external stakeholders:

Advisory Committee outreach to constituents (summary)

Dates of Advisory Committee review, discussion, recommendations

Advisory Committee recommendation to KDA

LISTING RECOMMENDATION ☐ Category A ☐ Category B ☐ Category C

☐ Watch List ☐ Do Not List ☐ Other

SIGNED

Listing Committee Chair

Noxious Weed Advisory Board Chair

DATE

CITATIONS

IMPACTS

Question 1.1

Question 1.2

Question 1.3

Question 1.4

INVASIVENESS

Question 2.1

Question 2.2

Question 2.3

Question 2.4

Question 2.5

Question 2.6

Question 2.7

CITATIONS

DISTRIBUTION

Question 3.1

Question 3.2

AGRICULTURAL - HUMAN IMPACTS

Question 4.1

Question 4.2

Question 4.3

Question 4.4

APPENDIX E. SPECIES MENTIONED

Species Mentioned in the Plan, by common name.

Common Name	Scientific Name	Status in Kansas[1]
Black nightshade complex	*Solanum americanum* Mill.	*RS*
	Solanum interius Rydb.	*RS*
	Solanum nigrum L.	*RS*
	Solanum ptychanthum Dunal	*RS*
	Solanum sarrachoides Sendtn.	*RS*
Buckhorn plantain	*Plantago lanceolata* L.	*RS*
Bull thistle	*Cirsium vulgare* (Savi) Tenore	
Bur ragweed	*Ambrosia grayi* (A. Nelson) Shinners	N
Canada thistle	*Cirsium arvense* (L.) Scop.	
Carolina horsenettle	*Solanum carolinense* L.	*RS*
Caucasian bluestem	*Bothriochloa bladhii* (Retz.) S.T. Blake	C
Charlock	*Sinapis arvensis* L.	*RS*
Cheat	*Bromus secalinus* L.B.	*RS*
Climbing milkweed	*Cynanchum laeve* (Michx.) Pers.	*RS*
Cocklebur	*Xanthium* spp.	*RS*
Columbus grass	*Sorghum ×almum* Parodi	*PS*
Common reed	*Phragmites australis* (Cav.) Trin. ex Steud.	A
Common teasel	*Dipsacus fullonum* L.	C
Curly-leaf pondweed	*Potamogeton crispus* L.	A
Cut-leaf teasel	*Dipsacus laciniatus* L.	C
Dalmatian toadflax	*Linaria dalmatica* (L.) Mill.	
Diffuse knapweed	*Centaurea diffusa* Lam.	
Dock	*Rumex* spp.	*RS*
Dodder	*Cuscuta* spp.	*RS*
Eurasian watermilfoil	*Myriophyllum spicatum* L.	A
Field bindweed	*Convolvulus arvensis* L.	N
Field pennycress	*Thlaspi arvense* L.	*RS*
Giant foxtail	*Setaria faberi* R.A.W. Herrm.	*RS*
Grecian foxglove	*Digitalis lanata* Ehrh.	Q
Hairy chess	*Bromus commutatus* L.	*RS*
Hedge bindweed	*Calystegia sepium* (L.) R. Br.	*RS*
Hoary cress	*Lepidium draba* L.	N
Hydrilla	*Hydrilla verticillata* (Linnaeus f.) Royle	A
Johnsongrass	*Sorghum halepense* (L.) Pers.	N
Jointed goatgrass	*Aegilops cylindrica* Host	*RS*
Kudzu	*Pueraria montana* (Lour.) Merr. var. lobata (Willd.) Maesen & S.M. Almeida ex Sanjapp & Predeep	N
Leafy spurge	*Euphorbia virgata* Waldst. & Kit.	N
Morning glory	*Ipomoea* spp.	*RS*
Musk thistle	*Carduus nutans* L.	N
Oxeye daisy	*Leucanthemum vulgare* Lam.	*RS*
Perennial sowthistle	*Sonchus arvensis* L.	*RS*
Pignut	*Hoffmannseggia glauca* (Ort.) Eifert	N
Puncturevine	*Tribulus terrestris* L.	
Purple loosestrife	*Lythrum salicaria* L.	Q / A
Quackgrass	*Elymus repens* (L.) Gould	N
Russian knapweed	*Rhaponticum repens* (L.) Hidalgo	N
Salt cedar	*Tamarix* spp.	Q / A
Sericea lespedeza	*Lespedeza cuneata* (Dum. Cours.) G. Don	N

Silverleaf nightshade	*Solanum elaeagnifolium* Cav.	*RS*
Spotted knapweed	*Centaurea* stoebe L. subsp. micranthos (S. G. Gmelin ex Gugler) Hayek	
Texas blueweed	*Helianthus ciliaris* DC.	*PS*
Treacle	*Erysimum* spp.	*RS*
Velvetleaf	*Abutilon theophrasti* Medik.	*RS*
Wild buckwheat	*Fallopia convolvulus* (L.) Á. Löve	*RS*
Wild carrot	*Daucus carota* L.	*RS*
Wild mustards	*Brassica* spp.	*RS*
Wild oats	*Avena fatua* L.	*RS*
Wild onion or garlic	*Allium* spp.	*RS*
Yellow starthistle	*Centaurea solstitialis* L.	
Yellow toadflax	*Linaria vulgaris* Mill.	

[1]A Aquatic nuisance species
C County option noxious weed, in specific counties only
N Noxious weed and Noxious weed seed
PS *Prohibited weed seed*[2]
Q Quarantined species
RS *Restricted weed seed*[2]

[2]*Currently being revised*

Species Mentioned in the Plan, by scientific name.

Common Name	Scientific Name	Status in Kansas*
Velvetleaf	*Abutilon theophrasti* Medik.	*RS*
Jointed goatgrass	*Aegilops cylindrica* Host	*RS*
Wild onion or garlic	*Allium* spp.	*RS*
Bur ragweed	*Ambrosia grayi* (A. Nelson) Shinners	N
Wild oats	*Avena fatua* L.	*RS*
Caucasian bluestem	*Bothriochloa bladhii* (Retz.) S.T. Blake	C
Wild mustards	*Brassica* spp.	*RS*
Hairy chess	*Bromus commutatus* L.	*RS*
Cheat	*Bromus secalinus* L.B.	*RS*
Hedge bindweed	*Calystegia sepium* (L.) R. Br.	*RS*
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Diffuse knapweed	*Centaurea diffusa* Lam.	
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Field bindweed	*Convolvulus arvensis* L.	N
Dodder	*Cuscuta* spp.	*RS*
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Hydrilla	*Hydrilla verticillata* (Linnaeus f.) Royle	A
Morning glory	*Ipomoea* spp.	*RS*
Hoary cress	*Lepidium draba* L.	N
Sericea lespedeza	*Lespedeza cuneata* (Dum. Cours.) G. Don	N
Oxeye daisy	*Leucanthemum vulgare* Lam.	*RS*
Dalmatian toadflax	*Linaria dalmatica* (L.) Mill.	
Yellow toadflax	*Linaria vulgaris* Mill.	
Purple loosestrife	*Lythrum salicaria* L.	Q / A
Eurasian watermilfoil	*Myriophyllum spicatum* L.	A
Common reed	*Phragmites australis* (Cav.) Trin. ex Steud.	A
Buckhorn plantain	*Plantago lanceolata* L.	*RS*
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Kudzu	*Pueraria montana* (Lour.) Merr. var. lobata (Willd.) Maesen & S.M. Almeida ex Sanjapp & Predeep	N
Russian knapweed	*Rhaponticum repens* (L.) Hidalgo	N
Dock	*Rumex* spp.	*RS*
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Charlock	*Sinapis arvensis* L.	*RS*
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Columbus grass	*Sorghum ×almum* Parodi	*PS*
Johnsongrass	*Sorghum halepense* (L.) Pers.	N
Salt cedar	*Tamarix* spp.	Q / A
Field pennycress	*Thlaspi arvense* L.	*RS*
Puncturevine	*Tribulus terrestris* L.	
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APPENDIX F. GLOSSARY

alien species – A plant species in a given area whose presence there is due to intentional or accidental introduction as a result of human activity.

aquatic nuisance species – A plant species that is not native to the area in which it is current established, which can threaten lake and river ecology, harm native or desirable species, and interfere with our economy.

desirable species – A plant species that, while alien to a particular ecosystem, provides an economic or environmental benefit to the area into which it was introduced without showing any signs of invasiveness.

exotic species – A plant not native to the area in which it is now found.

introduced species – An organism that has been accidentally or deliberately transported by human activity to a location outside of the ecosystem in which it historically occurred.

invasive species – An alien plant species whose introduction does or is likely to cause economic or environmental harm or harm to human health.

native species – A plant species that, other than as a result of an introduction, historically occurred or currently occurs in a particular ecosystem.

naturalized species – A non-native plant that does not need human help to reproduce and sustains populations over numerous life cycles without human intervention in an area where it is not native.

non-native species – A plant species that is not indigenous to the area into which it spread or was introduced.

noxious species – Any plant species declared to be noxious by the Kansas Secretary of Agriculture.

quarantined species – An invasive plant species prohibited by law from being moved into or within the state of Kansas.

seed bank – A reservoir of ungerminated but viable seed in the soil deposited by the plants growing in that area of soil.

watch species – An invasive plant species about which little is known within the state of Kansas in terms of the extent of its infestation or the harm it causes, or could cause, to the economy or environment.

weed – A plant that is not valued where it is growing and usually has characteristics that allow it to grow, reproduce or spread vigorously and present detrimental effects on the economy or environment