# 2022

# Annual Noxious Weed Management Plan

COWLEY COUNTY NOXIOUS WEED DEPARTMENT

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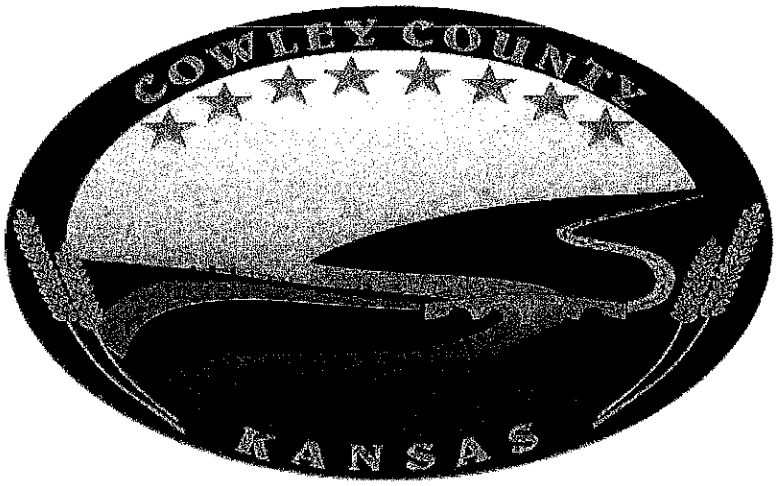

# 2022 Annual Noxious Weed Management Plan

**Cowley County Weed Department Activities**

**January:**
Inventory noxious weed dept. equipment and chemical.
Be available to answer questions and Fill out Cost Share Certificate.
Complete annual report for previous year.
Develop a noxious weed management plan for next year.
Treat musk thistle if the soil is not frozen.
Repair equipment, build new equipment.
Balance inventory and ledger tie-out sheet.
Attend various meetings and either plan and or hold information meetings.*

**February:**
Be available to answer questions and Cost Share
Write news articles for the coming year.
Review worker protection standard training
Oversee and or treatment of county roadsides.
Treat musk thistle if the soil is not frozen.
Contact cities, townships and public agencies and assist in developing a plan.
Balance inventory and ledger tie-out sheet.
Attend meetings.*

**March:**
Attend annual conference for CWDAK.
Be available to answer questions and Fill out Cost Share Certificate.
Do site inspections.
Publish noxious weed public notices in our newspapers.
Write, print and mail spring treatment newsletters to county land stewards.
Check equipment to get ready to start treatments.
Treat johnsongrass if the soil is not frozen.
Treat musk thistle if the soil is not frozen.
Balance inventory and ledger tie-out sheet.
Review and gather last year's records for when the auditors ask for them.
Oversee and or treatment of county roadsides.
Attend meetings.*

**April:**
Be available to answer questions and Fill out Cost Share Certificate.
Do site inspections.
Treat hoary cress locations.
Contact landowners to be sure musk thistle location are treated.
Send out news articles on musk thistle control.
Treat musk thistle.
Oversee and or treatment of county roadsides.
Keep on top of chemical supply for treatments.
Balance inventory and ledger tie-out sheet.
Attend meetings.*

**May:**
Be available to answer questions and Fill out Cost Share Certificate.
Keep on top of chemical supply for treatments.
Do site inspections.
Have equipment prepared for treatment of County property.
Begin state surveys for noxious weeds.
Oversee and or treatment of county roadsides.
Check musk thistle locations after initial treatment and destroy any existing plants.
Send out news articles on field bindweed and johnsongrass control.
Start preparing for next year's budget.
Balance inventory and ledger tie-out sheet.
Attend meetings.*

**June:**
Be available to answer questions and Fill out Cost Share Certificate.
Keep on top of chemical supply for treatment.
Do site inspection.
Begin field bindweed treatment.
Oversee and/or treatment of county roadsides.
Treat county roadside for trees and brush.
Begin johnsongrass treatment.
Check musk thistle locations to destroy any existing plants.
Continue state surveys for noxious weeds.
Send information letters to property owners surveyed with noxious weeds.
Send out news article on sericea lespedeza control.
Complete next year's budget to present to county administer and commissioners for approval.
Balance inventory and ledger tie-out sheet.
Attend meetings.*

**July:**
Be available to answer questions and Fill out Cost Share Certificate.
Attend summer conference and training
Keep on top of chemical supply for treatments.
Oversee and or treatment of county roadsides.
Contact land stewards about controlling field bindweed, johnsongrass and sericea lespedeza.
Treat field bindweed.
Treat johnsongrass.
Treat sericea lespedeza locations.
Continue state survey for noxious weeds.
Check chemical inventory to purchase new chemical.
Balance inventory and ledger tie-out sheet.
Attend meetings.*

**August:**
Be available to answer questions and Fill out Cost Share Certificate.
Contact land stewards about controlling field bindweed, johnsongrass and sericea lespedeza.
Oversee treatment of county roadsides.
Do site inspections.
Continue state survey for noxious weeds.

Keep on top of chemical supply for treatments.
Treat growing field bindweed.
Treat johnsongrass.
Treat sericea lespedeza locations.
Balance inventory and ledger tie-out sheet.
Attend meetings.*

**September:**
Be available to answer questions and Fill out Cost Share Certificate.
Contact land stewards about controlling field bindweed, johnsongrass and sericea lespedeza.
Keep on top of chemical supply for treatments.
Write, print and mail fall treatment newsletters to county land stewards.
Oversee and/or treatment of county roadsides.
Do site inspections.
Continue state survey for noxious weeds.
Treat growing field bindweed.
Treat growing johnsongrass.
Treat growing sericea lespedeza.
Balance inventory and ledger tie-out sheet.
Attend meetings.*

**October:**
Be available to answer question and Fill out Cost Share Certificate.
Oversee and or treatment of county roadsides.
Contact land stewards about controlling field bindweed, johnsongrass and sericea lespedeza.
Keep on top of chemical supply for treatments.
Do site inspections.
Fall treatment musk thistle.
Fall treatment of field bindweed.
Fall treatment hoary cress locations.
Send out news article on fall treatment of musk thistle.
Contact landowners for fall treatment of musk thistle.
Balance inventory and ledger tie-out sheet.
Attend meetings.*

**November:**
Attend Kansas Association of Counties annual convention.
Be available to answer questions and Fill out Cost Share Certificate.
Oversee and/or treatment of county roadsides.
Do site inspections.
Fall treat musk thistle location if soil is not frozen.
Basal treatment of the trees on County property.
Winterize equipment not being used.
Repair equipment and build new equipment.
Balance inventory and ledge tie-out sheet.
Attend meetings.*

**December:**
Be available to answer questions and Fill out Cost Share Certificate.
Basal treatment of the trees on County property.
Oversee and or treatment of county roadsides.
Treat musk thistle if the soil is not frozen.
Check chemical budget fund, and order end of the year chemicals.
Repair equipment, build new equipment.
Balance inventory and ledger tie-out sheet.
Attend meetings.*

*Meetings attended can be one or more with: Weed Directors, NRCS, Sunflower RC&D, Sericea Lespedeza Control Initiative Group, Extension Office, County Assoc, of Land Owners, Cotton Growers, Southeast Weed Department, and County Department Head Meetings.

**Preventative Weed Control**
Preventive weed control practices are measures taken to restrict the movement of weed vegetative parts or weed seeds. This is a process of educating individuals to be aware of the movement of materials or property that may contain noxious weed seeds or plant parts that have the potential of causing new infestations. Individuals must be informed on preventative measures taken to restrict the movement of noxious seeds and plant parts.

Good farm-management practices play an important role in weed prevention. Farmers must plant only weed free seeds. A check of purity, germinations, and quality is required when purchasing uncertified seeds. All home-grown seeds must be thoroughly cleaned and tested.

Some planting, tilling, and harvesting machinery may be cleaned fairly easily. Harvest machinery must be thoroughly cleaned before moving to a new harvest location. The machine should be operated empty with increased air supply to the fan and with the bottoms of the elevators open to expel weed seeds. Compressed air is helpful to remove material on or inside the machinery.

Livestock producers should be aware that weed seed may be carried on livestock or in their digestive tracts. Cattle moved in from out of state should be placed in small pastures for 1 week, so weed seeds are deposited in an area where they can be monitored.

Soil material, sand and gravel should be inspected before and after movement. Infestations should be eradicated before they become sources of spread. Care should be taken in the selection of topsoil for landscaping and construction fill.

**Drainage water sheds:**
Johnsongrass and field bindweed control in watersheds should start in the upper part of the watershed drainage and eradicate noxious weeds in progressive segments of land moving down the watershed. Progression to the next lower segment of land down the watershed should only be possible when eradication is accomplished in the upper area of the watershed or reinfestation downstream areas will occur.

**Ensilage:**
Ensilage studies have shown that the field bindweed and sericea lespedeza viability are not always destroyed. Field bindweed had an average germination of 16% after ensilage treatment.

**Manure:**
Manure from livestock feeding on grain, hay or ensilage containing viable johnsongrass, field bindweed or sericea lespedeza seeds, should be treated in some manner that destroys seeds before it is spreads onto the land. Composting manure appear to destroy most weed seeds, although results are affected by the size of the pile, type of manure, moisture content, temperature generated within the pile, location, condition of weed seeds, climate and length of storage in the pile. A combination of treatments such as ensilage, feeding ensilage to animals and composting of manure should destroy all weed seeds.

## Field Bindweed Control Plan

**Introduction:**
Field Bindweed is a deep-rooted, aggressive, perennial weed; it is widely distributed in the temperate zones of the world. Cowley County cropland consists of approximately one-third of the total land area in the country. With 62% of the cropland in the county producing wheat, 17% grain sorghum, 4% alfalfa, 3% soybean and the remainder improved hay meadows and minor crops. Research results have shown field bindweed reduces cereal crop yield 20 to 50% and row crop yields 50 to 80%.

Noxious weed survey results and random spot checking of private property in the county have shown that bindweed is a major problem on all types of property in Cowley County. Private property contains an estimated infestation of 2,600 acres.

**Locating:**
Field bindweed is located by routine travel through the county. Some sites are located when the annual noxious weed survey is conducted while others are found after an investigation of complaints.

**Notify Landowners:**
Information letters are used to notify landowners or operators of control methods and chemical used. Some sites are evaluated with the owner or operator. Because field bindweed will require 3 or more years to eradicate a location, it is important to meet with landowners to discuss a long term treatment program. Landowners failing to cooperate in the control of field bindweed will receive warning notices and legal notices. If control is not preformed, the county will treat or hire the treatment.

**Equipment:**
Tillage equipment using sweep-type implements is an effective means of elimination field bindweed seedlings if used before the establishment of the perennial root system which is 6 weeks.

Large open fields may be chemically treated with a boom type spray system using nozzles giving a spray volume of at least 20 gallons per acre.

Fence lines can be treated using a handgun sprayer or a boomless nozzle spray system. Small patches could be treated with a backpack sprayer.

**Control:**
The policy of this Department is to strive toward eradicating field bindweed rather than to control the practices. The type of chemical eradication or tillage control practice used will depend on the type of crop grown. There is a cost share on chemical approved for use in the official control plan to treat field

bindweed on private property. If wheat is produced continuously on the land, a three year program using a residual type of chemical as Tordon 22K or Banvel, combined with 2, 4-D would be recommended. The 1st year applies immediately after wheat harvest, 1pint Tordon 22K per acres plus 1 quart 2, 4-D Amine. Banvel herbicide may be substituted for Tordon 22K at the same rate with similar control results. There is a 60 day recropping interval with each pint of Tordon 22K (a restricted use herbicide). There is a 45 day recropping interval with each pint of Banvel.

Field bindweed in a continuous broadleaf row crop as soybeans or cotton can be controlled with cultivation. Then after the crop is harvested, a non-residual chemical as 2, 4-D or Roundup could be applied.

Field bindweed may be suppressed by intensive tillage or the use of a non-residual chemical, then plant a tall growing competitive crop as forage sorghum or sudangrass in narrow rows; this will shade the soil and suppress field bindweed.

Corn and grain sorghum may be planted in the spring following an application made during the previous fall using Banvel herbicide. Treat field bindweed patches 20 feet around the patch if using a residual type of chemical.

Roundup can be used for spot treatment with a handgun as a 1% mixture roundup and water.
2, 4-D Amine could be used at .75-2qts. Per acre of the 4lb. per gal. product, for spot treatment.

Spring treatment will give successful control results if the plants are rapidly growing. Excellent control results have been obtained when chemical treatment is preformed after the 1st light frost and there is ample soil moisture to support active plant growth. The fall treatment must be performed before the temperature drops below the middle twenty degree range, this will send the plant into dormancy.

If there is a question that guidelines are not being followed as in the official control plan, there will be a follow-up inspection of owner-operators purchasing chemical at cost share.

**Prevention:**

1. Contact feed dealers and feed lots to inspect incoming feeds suspected of having noxious weed seeds.
2. Contact feed dealers and feed lots more often if they seem less than cooperative in the inspection program.
3. Inspect all hay sold at public auction.
4. Harvest machinery inspections:
   Before harvest season begins use news media to advise farmers of prevention procedure for noxious weeds and to let them know of the inspection service. Note that non-custom machines also spread noxious weeds.
   1. Contact custom grain harvesters before they leave home base to be sure that they are aware of their Kansas responsibility. Place decals on machines.
   2. Fill out equipment inspections form to note number of machines and decals required.
   3. When machine owner is not available, leave harvesting machine flier with crew members, or attached to machine.

   Always express the need and appreciation for compliance with the program of prevention of the spread of noxious weeds.
5. Nursery inspections:
   1. Ask their cooperation in preventing the spread of noxious weeds through their products.
   2. If noxious weeds are present contact Weed and Pesticide Division of Kansas State Board of Agriculture.
   3. Recommend a non-residual type chemical such as Roundup for treatment.

**Education:**

1. News articles are published in the local news paper to inform public on control methods and chemical treatments of all the noxious weeds.
2. Conduct informative meetings on noxious weeds.
3. Display demonstration plots in the county.
4. Offer two $500.00 Scholarships for students going into the Ag. Field

## Field Bindweed Control Plan for Cities

The major cities in Cowley County are Arkansas City and Winfield. There are 7 smaller incorporated cities; Atlanta, Burden, Cambridge, Dexter, Gueda Springs, Parkerfield and Udall. The estimated acreage of field bindweed on city property is 60 acres. Infested locations include roadside ditches, drainage canals, public parks, river flood levies and wasteland areas. Cities will be contacted each spring by written notice or a private visit to explain their responsibility in noxious weed control. Cities are given information on treatment methods, equipment and approved chemicals for the different treatment sites.

Many treatment sites within the cities are considered sensitive treatment areas. Hoeing in 10 days to 2 week intervals is an approved practice for field bindweed control around flower beds, horticulture and forestry plants. Chemicals with a soil residual property like Banvel, or Tordon 22K cannot be used near plants where the root systems will uptake the chemical. Spot spraying Krenite or 2, 4-D Amine to lawns or grassy park areas is an effective treatment by may require 3 or more years to eradicate infested sites.
Boom type and boomless nozzle type spray system could be used for treatment of large infestation of field bindweed in open grassy areas as parks or recreation areas.

Handgun spray system and backpack sprayers serve the purpose of treating field bindweed patches near to sensitive areas. Care must be taken to keep hand gun spray pressure low and use larger nozzle tips, in order to reduce spray drifting to desirable plants. Treating near the sensitive areas is only possible when wind is less than 5 miles per hour.

The county inspects the city noxious weed control work once every two years.

## Field Bindweed Control Plan on County Roads

This acreage had reduced during the last 5 years due to improved equipment application technology and use of herbicides that give the highest control rates.
The boomless nozzle spray system used with 2, 4-D Amine, Tordon 22K has produced the control desired. The size and number of patches has reduced, which decreased the volume of chemical required to treat the county roads.
The present policy is to treat all county roadside field bindweed patches once a year, either a spring or fall application. The chemicals of choice are 2. 4-D Amine at 1 lb per acre used with Tordon 22K at 1 pint per acre. Care is taken not to treat areas with a high water table or where run off could contaminate water.

## Field Bindweed Control Plan on Township Roads

The Cowley County Township road system consists of 1,284.59 miles of roadside right-of-way. This road system is in close contact with a large acreage of private property. Which came first the chicken or the egg is a question that is brought up when property owners are pointing their fingers at township road side as a site of contamination to their fields. Whether the field bindweed originated on township roadside and moved onto private land or has crept off private acres, all townships receive written notices each spring requiring treatment.

The county will contract with approximately one half of the townships to do the treatment. All roadside will be treated during the spring from May 15th to June 15th. If not treated during the spring period, then treatment will be after the first light frost. The county used a boomless nozzle spray system on roadside field bindweed treatment. The chemicals of choice are 2, 4-D Amine plus Tordon 22K at 1 pint per acre.

The remainder of townships will do their own treatment. Townships use handgun type spray systems. They use chemicals such as 2, 4-D Amine, Roundup, 2, 4-D Amine plus Banvel and 2, 4-D Amine plus Tordon 22-K. Some townships use Roundup on both field bindweed and johnsongrass. Most treatment will be performed during spring and early summer. Inspect township property to see that treatment is preformed.

## Hoary Cress Control Plan

**Introduction:**

Hoary Cress is an introduced broad leaf, perennial weed from Eurasia with an extensive root system. Hoary cress reproduces from rhizomes and seeds which forms dense patches. A dense strand of hoary cress will reduce forage on native and cool season pastures.

Hoary cress in Cowley County is affecting about 20 acres of land. Hoary cress can be found during April by observing dense patches of white flowers.

**Chemical Control:**

Treatment is preformed during April when hoary cress is in the bud stage. The locations are treated with backpack sprayers or boomless nozzle type spray system. Escort is applied at the rate of ½ oz per acre on pasture, rangeland and non-cropland. The fall treatment for hoary cress in the rosette stage is 16 oz. of Banvel. All locations are checked 1 month after chemical treatment, all seed heads are cut and saved to burn and the remaining plant is treated with Banvel. All locations are treated until no plants can be found.

**Prevention:**

Plant seed that has been inspected and free of noxious weed seeds. Feed hay and grain that is free of hoary cress and clean machinery prior to leaving infested areas.

## Johnsongrass Control Plan on Private Property

Landowners recognize johnsongrass as a serious weed because of its spreading habits and difficulty of eradication. The estimated acreage of johnsongrass on private property in Cowley County is 5, 866 acres.

**Distribution:**
The largest infestation of johnsongrass in Cowley County can be found along rivers, stream banks, and flood plains. Flood plain infestations of johnsongrass are a continuous control problem. Cropland downstream from infested sites becomes re-infested by flood water. Abandoned farmsteads and wasteland not accessible to cattle or farm machinery will promote seeding of adjacent fields. Infested fence lines that border fields that have been rotated to where they must be treated to inhibit re-infesting the field once row crops are planted again.
Cowley County produces approximately 38,200 acres of grain, sorghum and 7,000 acres of soybeans. These crops show economic damage more than others because of the competition for soil nutrients; water and sunlight.

**Locating:**
Infested sites are located by the annual noxious weed survey. Other johnsongrass is found by routine travel through the county and investigation of complaints.

**Notifying Landowners:**
Information letters are used to notify landowners or operators of control methods and chemical used. Some sites are evaluated with the owner or operator. Because johnsongrass may require 3 or more years to eradicate a location, it is important to meet with land owners to discuss a long term treatment program. Landowners failing to cooperate in controlling johnsongrass will receive warning notices and legal notices. If control is not preformed, the county will treat or hire the treatment.

**Cultural Control:**
No single treatment is available for controlling johnsongrass in cultivated areas. Total eradication may require combined efforts of pre-plant incorporated herbicides, post emergence herbicide, spot spraying and intensive tillage.

Dense strands of johnsongrass growing in wasteland, fallow fields or row crops of grain sorghum or soybeans, may be controlled by seeding to wheat which destroys the rhizomes with summer cultivation for the fall seed bed. While the soil is firm cut the johnsongrass rhizomes with a disc not more than 10 days after new growth begins. Then if the plant begins to grow again, disc again in 10 days. At this point if the infestation persists, the operator could mold board plow under the extensive rhizomes, stalks and fibrous roots. Further cultivation could cut off persistent infestation at each operation with sweeps or duckfoot.

**Chemical Control:**
There is a cost share on chemical approved in the Official Control Plan to treat johnsongrass on private property. Herbicides may be used for johnsongrass control in combination with cultivation. Roundup is a foliage treatment for johnsongrass and shall be applied when the plant is actively growing, at 18 inches, to early heading stage of growth. Apply one to 2 pints per acre with a non-ionic surfactant.

For post emergence johnsongrass control in soybeans and cotton. Treat johnsongrass at eight to eighteen inches high with 1.5 pints per acre of Poast or Fusilade.

For control of johnsongrass seedling before soybean or cotton is planted, Treflan at 1-2 quarts per acre can be soil incorporated.

For treatment of johnsongrass on non-cropland, fence rows, roadsides right-of-ways and around storage areas; the herbicide OUST can be applied at three to five ounces per acre. OUST is absorbed by both roots and foliage of actively growing plants. The residual effect of OUST in the soil has been effective on suppression of johnsongrass seedling establishment.

**Follow-up Treatment:**
A post-treatment survey would be necessary to evaluate the treatment of johnsongrass. Three or more years of treatment may be required to eradicate johnsongrass at a location. A key ingredient to johnsongrass control is being persistent.

**Prevention:**
Operators, when harvesting row crops that contain johnsongrass seed must be certain to cover hauled grain with a tarp, to prevent spreading of johnsongrass seed along roadsides. Farmers must be certain to plant johnsongrass free seed, use livestock feed that is free of johnsongrass seed and clean machinery before leaving infested fields.

## Johnsongrass Control Plan on Township Roads

The estimated acreage of johnsongrass on township roadside is 800 acres, on 1,284.59 miles of roadside right-of-way. All townships receive written notices each spring requiring treatment. About one half of the townships request the county to treat their noxious weeds. The county will start treatment when the johnsongrass is about one foot tall using Fusion herbicide, using the application rate of 8 ounces per acre through a handgun for small areas or boomless nozzle system for large areas. When the johnsongrass reaches two feet tall, then the herbicide is switched to OUST at four-five ounces per acre, per 100 gal. of solution. Other options for treatment include Outrider at 1 oz. /acre of Plateau at 4 to 8 oz. /acre are effective for johnsongrass control.

The remainder of townships will do their own treatment. Most townships use handgun type spray systems. The most recommended herbicide mix is OUST. There are a few Townships that prefer Roundup herbicide applied as a 1% spray solution or Outrider at oz per acre. The county randomly checks township property to see that treatment is performed. Townships needing additional treatments are contacted by information letters, or by phone with treatment requirements and procedures.

## Johnsongrass Control Plan on County Roads

The estimated acreage of johnsongrasss on Cowley County property is 302.4 acres on 350 miles of roadside right-a-way. The most effective control for johnsongrass patches has been with 4-5 oz. per acre of OUST herbicide per 100 gal. of spray solution. Application is made with a handgun on small patches. OUST has produced the desired control of johnsongrass because of the residual effect of OUST in the soil.

Areas on county roadsides that contain low populations of johnsongrass may be treated with herbicide Plateau or Fusion. The johnsongrass must be treated before it is 2 feet tall. The treated areas should not be mowed for 4 weeks after treatment. The application rate of 8 ounces per acre, applied with a handgun or boomless nozzle system. This will show the desired control of johnsongrass without significantly effecting native grass, brome or fescue. The plan is to treat all county roadsides with Fusion, Outrider or Plateau until johnsongrass is over 2 feet tall, then switch to using OUST to complete the treatment.

## Johnsongrass Control Plan for Cities

Most cities in Cowley County are located near rivers or streams. Johnsongrass control on flood plains of rivers continue to be a major challenge. Infested location include roadside ditches drainage canals, river flood levies and waste land areas. The estimated acreage of johnsongrass on city property is 129.3 acres.

Cities are contacted each spring by either written notices or private visit to explain their responsibility in noxious weed control. Information is given on treatment methods equipment and approved chemical for the different treatment sites.

Close mowing or hoeing at two week intervals during the growing season is an effective johnsongrass control around flower gardens, lawns, trees, and shrubbery.

Areas along roadside containing native grass or brome fescue can be treated with a selective type herbicide such as Fusion. The johsnongrass must be treated with fusion before it is two feet tall and should not be mowed for four weeks after retreatment. Apply at a rate of 6 ounces per acre, apply with a handgun or boomless nozzle system.

When johnsongrass is greater than two feet tall on roadside and waste land areas use OUST herbicide at 4- oz per acre combined with 1 quart of MSMA per 100 gal. of spray solution. Application is made with a handgun on small patches or a boomless nozzle spray system on larger patches. OUST has produced the desired control of johnsongrass because of the residual effects of OUST in the soil.

For spot treatment of johnsongrass with a handgun when the plant is actively growing from 18 inches, to early heading stage of growth, apply 1% mixture of Roundup. For treating wasteland areas with a boom or boomless nozzle system apply 1-2 quarts per acre with 10 gal. of water per acre. Roundup is a nonselective herbicide and will kill desirable plants in treated area.

## Johnsongrass and Field Bindweed Control Plan on Railroad Property

The Atchison, Topeka and Santa Fe Railroad company maintains 51 mile of track in Cowley County, with estimated field bindweed acreage of 101. The johnsongrass acreage estimate is 202. HAB.CO, in Kansas City Missouri was contacted to do the treatment.

The Southern Kansas and Oklahoma Railroad company maintains 42.7 miles of track in Cowley County, with the estimated field bindweed acreage of 86.2. The johnsongrass acreage estimate is 172.3. The Southern Kansas and Oklahoma Railroad Company will do the treatment and will contact the County before starting treatment.

The railroad right-of-way systems' narrow bands of property are in close contact with a large acreage of private property. Some infestations may have originated on private property and moved to railroad property.

Most of the railroad right-of-way is in rough condition and there is limited access using roadside type, spray equipment. The treatment would be more efficient if preformed by the use of a specialized high-rail truck moving on the rails or the use of a flat car mounted spray system. Large chemical solution tanks would allow for extended treatment periods before refilling. Spraying large patches with a boomless

nozzle type spray system would increase miles per hour treated and give uniform treatment of patches. Smaller areas would be treated with a handgun sprayer to conserve spray solution. Areas with wide right-of-way may require extension of the handgun hose to treat all noxious weeds up to the property line.

Many treated sites along systems are in close contact with crops that are sensitive to some chemicals. Constant awareness of wind direction and velocity must be considered as the spray vehicle moves into areas growing crops ranging from grain sorghum, cotton, corn, alfalfa, soybeans and wheat. Chemicals used to control field bindweed will also damage broadleaf crops such as cotton, alfalfa and soybeans. Cotton is especially sensitive to broadleaf herbicides; care must be taken not to treat areas near cotton if the wind will carry any drift toward the crop. Johnsongrass herbicides will damage wheat, grain sorghum and corn. Care must be taken to keep spray pressure low and use larger nozzle tips, to reduce drifting to desirable crops.

Field bindweed growing in grassy areas can be controlled with chemicals that destroy the field bindweed but leave the grass. Herbicide such as Tordon 22K at 1pt. per acre used with 2, 4-D Amine at 1 lb. per acre will cost $11.25 per acre. Vanquish herbicide at 1 pt. per acre plus 2, 4-D Amine at 1 lb. per acre will cost $12.00 per acre and Veteran 720 herbicide at 2 qts. per acre will cost $13.50.
There are other chemicals that are used for bare ground treatment around intersection and are labeled for johnsongrass and field bindweed control. One chemical is arsenal herbicide use at 1 qt. per acre and will cost $44.50 per acre. OUST herbicide can be applied at 3-5 ounces per acre. OUST is absorbed by both roots and foliage of actively growing plants. If johnsongrass is higher than 2 feet then add 1 quart of MSMA/100 gal. of spray solution. The residual effect of OUST in the soil has been effective on suppression of johnsongrass seedling establishment.

Johnsongrass may be treated with Fusion herbicide before it is 2 feet tall. At the application rate of 8 oz. per acre, the cost will be $8.25 per acre. Applied with a handgun or a boomless nozzle spray system, Fusion shows desireable results without significantly effecting native grass, brome or fescue.

A post-treatment survey would be necessary to evaluate the treatment of noxious weeds. After railroad treatment has been performed, the County will evaluate treatment coverage. Treatment must be completed up to the private property line. The railroad will be notified if treatment is not complete. Three or more years of treatment may be required to eradicate a noxious weed location. A key ingredient to noxious weed control is being persistent.

## Musk Thistle Control Plan

### Introduction:

Musk thistle control and eradication has been of primary importance because the Cowley County rangeland is in the southern part of the Flinthill Bluestem resource region. This area comprises 55% of the County land area, primarily used for cattle grazing. A Musk Thistle infestation will reduce forage yield from 30%-100% depending upon plant density. Infested Musk Thistle acreage in Cowley County has remained low, at an estimated 5,000 acres. Persistent work by the Cowley County Noxious Weed Department and cooperation from land owners is the main contributing factor to this low acreage. Most infestations are found before sites become a large problem, with 99.6% on private property and the remainder on roadside right-of-ways. All infested sites are noted on a county map.

### Locating Musk Thistle:

Musk Thistle infestations have been found by several methods. Many landowners, public service workers and neighbors have notified the Noxious Weed Department when they see the plants. The weed department locates new sites through random spot check and routine travel throughout the county and some locations are found during the annual survey of the county.

**Notify Landowners:**
Landowners or operators must be notified and encouraged to treat their infestation. This may involve telephone call, personal visits to evaluate a site with the landowner, information letters, warning notices and legal notices. The County Weed Department inspects all infestations within the county. Landowners of these sites are notified as to their responsibility in control. The Noxious Weed Director will meet with landowners to evaluate the site for the type of control method that will be the most effective. Upon evaluation of the sites with the landowner many sites are treated at this time. Landowners are given instructions on future treatments. As further site inspections occur during the growing season small infestation are treated at the time of the inspection. Larger infestations may require contact with the landowner or operator to decide if the landowner will perform treatment or hire the county.

**Equipment:**
Site locations of less than 1 acre could be dug with a hand spade for Musk Thistle rosettes. Backpack sprayers are used for treatment of individual plants or broadcast spraying small areas where concentrations of plants are dense. Larger open areas may be chemically treated with a spray system composed of a tank, pump, and boom nozzle. Trees scattered in a rangeland may require a boomless nozzle spray system.

**Musk Thistle Treatment:**
The controls of musk thistle shall mean preventing the production of viable seed. The treatment methods as contained in the official control plans must be used to treat noxious weeds. All musk thistles are treated when the infestation is small. It will be much easier to destroy a few plants than several acres. Every location will be treated with a boom or backpack type of application using a residual type of chemical in order to take out as many plants as possible.

**Follow-up Treatment:**
A Post-treatment survey is necessary to evaluate the treatment of noxious weeds. Five or more years of treatment may be required to germinate all the seed and eradicate musk thistle at a location. A key ingredient to musk thistle control is being persistent.
After all locations are treated with chemical, then each site is checked in 3 week intervals to destroy any existing musk thistle plants. Individual plants are chemically treated with a backpack sprayer or hand dug. If hand digging; dig the root at least 2 inches below ground level and remove all the soil from the roots. When seed production begins seed heads must be picked. Make sure to wear heavy leather gloves. Place seed heads in a tight container and bury where they will not be unearthed or burn to destroy viable seed. Be persistent and revisit all sites in 3 week intervals to destroy existing plants until early July or at that time when seed production cease.

**Chemical Sales:**
There is a cost share on chemical for sale to treat musk thistle on private property. Sales of herbicide for musk thistle treatment will be approved after inspection of the infested location. Spring sales begin after April 15 or by appointment. The following chemicals are sold for musk thistle control 2, 4-D Amine, Milestone, Banvel or Tordon 22K (RUP).

**Prevent Infestation:**
Landowners must be sure there feed and hay sources are free of musk thistle seeds. Movement of feed and hay from infested fields or meadows, transported to a new location is a major cause of scattered seed along road sides. As the hay is fed at a new location, larger quantities of seed are

deposited. Seeds are also carried on harvest equipment down public and private roadways. Movement of the dry pappus with seed by wind currents generally carries the seed less than 300 yards, with exceptions of whorl winds and tornadoes. The weed department inspects all hay fields in areas where musk thistles have been found. Information letters are sent to growers encouraging them to check hay fields before harvest and only buy hay from producers with noxious weed free feed. Noxious Weed meetings will be held throughout the county to educate landowners on benefits of noxious weed control and control techniques.

**Sericea Lespedeza Control Plan on Private Property**

**Introduction:**
Sericca Lespedeza is a somewhat shrubby, perennial, legume, with erect stems up to 5 feet tall. If uncontrolled in rangeland or pastures, sericca forms dense strands that suppress grass production. Sericca Lespedeza produces new growth each spring from rhizomes. These new shoots increase in tannin content during mid-season and are unpalatable to cattle above six inches tall. Areas in pastures with dense strands of sericea lespedeza reproduce primarily by seed. Seeds move with water, infested hay and bird feces. The hard seeds pass through the digestive tract of birds.

**Distribution:**
Sericea Lespedeza infestations in Cowley County are found in native rangeland and improved pasture. Landowners have noted that some infestations have originated from wildlife see mixtures or planted for wildlife cover and feed. Some native grass seed mizture harvested in Missouri and eastern Kansas has been available for sale with sericea lespedeza seeds in the mixture. It has been noted that even small patches of seriea lespedeza will grow into large infestations at a rate 100-150% increase over a 5 year period. Infested locations in Cowley County are over 10,950 acres.

**Locating:**
Many infestations in Cowley County have been located by property owners requesting assistance in control of this weed. Some sites are located by routine travel throughout the county. Other infestations are located when the annual noxious weed survey is conducted, while others are found after investigation of complaints.

**Notifying:**
Landowners are contacted by telephone to set up appointments, to meet at the site, to evaluate treatment method and equipment. Sericea Lespedeza produces hard seeds that will germinate years later. It may require 9 or more years to eradicate a location, so it is important to meet with a landowner to discuss a long term treatment program.

**Equipment:**
Landowners are encouraged to check pastures for single plants or small infestations that could be chemically treated with a backpack type sprayer. Larger patches could be treated with a handgun type spray system. A range land accessible with a spray vehicle may be treated with a boom spray system or boomless nozzle spray system if the pasture consists of trees. If possible use a boom type system because it will produce consistent converges of the treated area. Areas of rough broken rangeland may require treatment from an airplane.

**Cultural Control:**
Stock pastures with mature cows until July 15$^{th}$, then move the cattle. This may reduce the occurrence of sericea lespedeza. Pasture fenced for grazing sheep or goats will provide effective

control of sericea lespedeza. Proper fertilization and grazing of tame pastures during April and May could reduce the weed. Late or no grazing will increase sericea lespedeza in both native range land and tame pastures. Mowing in the late bud stage for 3 consecutive years from July to early September should reduce the vigor of the infestation.

**Chemical Control:**
For range land and pasture treatment results have been favorable when using 1.5 pints of remedy or 32 oz. PastureGuard per acre. Apply during late summer when the plants are flowering. Also .5 oz. escort or Ally per acre applied when plants are in the bud stage, show favorable results. Airplanes must apply at least 3 gallons of spray solution per acre to produce through coverage.

**Prevention:**
Sericea lespedeza spreads rapidly from seeds. The areas must be chemically treated, then mowed before seeds are produced. Do not move hay that may contain viable seed from infested areas. Be sure to check the labels of grass seed mixtures for sericea lespedeza seed before planting.

# 2022 Annual Noxious Weed Management Plan

We certify that the copy of the Cowley County Annual Noxious Weed Management Plan as required by K.S.A 2-1316.

Bob Voegele — 3-1-22
Chairman, Board of County Commissioners — Date

Wes Witt — 3-1-22
County Commissioner — Date

[signature] — 3-1-22
County Commissioner — Date

Eric J. Neal — 02/28/2022
County Noxious Weed Coordinator — Date