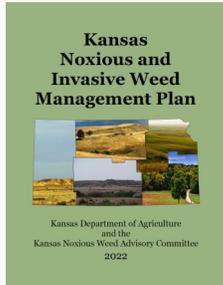


Special points of interest:

- The first use of biological controls to control weeds was in India in 1863 to control cactus.
- The first biological control agents released in Kansas were in 1973 to control musk thistle.



This last year the Kansas Department of Agriculture, in cooperation with the State Noxious Weed Advisory Committee and several other agencies and organizations within the state, produced the first statewide Noxious and Invasive Weed Management Plan for Kansas. This plan will be maintained and updated every five years to

Love it When a Plan Comes Together

ensure that it remains a current and viable document and continues to guide land managers for generations to come. The plan outlines the current laws, policies, and responsibilities that exist at the state, county and local levels. It also identifies the efforts being made to manage noxious and invasive weeds as well as those that could be made. Most importantly, it identifies eight objectives to be accomplished within individual targeted completion

dates. Those objectives are Funding and Resources, Partnerships and Coordination, Noxious and Invasive Weed Species, Regulatory Framework, Prevention, Early Detection and Rapid Response, Noxious Weed Management, Monitoring and Restoration, and Surveys and Mapping. For more information or to view the management plan itself, go to the Kansas Department of Agriculture's website at agriculture.ks.gov/NoxiousWeeds.

Invasive Species Control, With Benefits

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Sign up to receive the Noxious and Invasive Weed Update automatically via email at agriculture.ks.gov

When it comes to controlling invasive weeds, it often seems to involve a whole lot of work with no immediate benefits. We all know the long-term economic and environmental benefits of weed management, but in the short-term, it's easy to feel "what's in it for me?". Well now there is a way to cut your tree and plant it too. If you have any Callery pear trees growing on your property, you can exchange it for a native tree. Callery pear (*Pyrus calleryana*) is a popular landscape species that is also very invasive. To spread awareness of how invasive it is, and to encourage people

to control them, Deep Roots, a non-profit organization out of KCMO, is hosting a number of Callery Pear Buyback/Recall Events in eastern Kansas and western Missouri. To participate, go to <https://deeproofs.org/callery-pear-events/> to find an event near you and register. Then, cut down your Callery pear tree, treat the stump with herbicide (more about this below), take a picture of you and your downed tree and email it to hello@deeprootssk.org. Finally, you just show up at the event and pick up your free native tree. Now, more about treating the stump of your Callery

pear after you cut it down. When it is cut down, it sends up large numbers of shoots from its root system, each of which can grow into another tree. So, if you do not want to replace one invasive tree with many more, you should treat the stump with an herbicide such as glyphosate or triclopyr immediately after cutting it down. Remember to always read and follow the label instructions because the label is the law.



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There's an App for That - Herbicide Application Apps: Mixing

As was mentioned in the last issue, there are quite a few different apps out there aiming to help you manage your herbicide, or any other pesticide, applications. The types we will discuss in this article are those that help determine how much pesticide needed to accomplish your current application project.

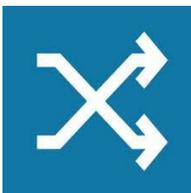
One such mix rate app is Tank Mix Calculator from TapLogic. This app allows you to list the various pesticides you plan to use, now or in the future and save them in a library to use as needed. When you are ready to start filling your tank you simply select the pesticides you plan to use, add the size of the sprayed, the tank to use and volume, or per acre you need



area to be the size of you plan the spray gallons at which to apply,

and the app will calculate the amount of each pesticide you need to add to your tank. It will even tell you how much water to add. It will not, however tell you if you should add the water first or the chemicals, or if you need to agitate or not. You will need to refer to the product labels for that critical information.

Another, similar app is Mixtank from Precision Laboratories. While you will need to create an account to be able to use this app, it is much more inclusive and provides a lot more information. It also lets you select the pesticides you wish to use, but it also allows you to select adjuvants and fertilizers, if you choose them in It will the or-which to choices



to include your mix. then give der in add your to your

It will then ask if you want to create a spray log. If you do, it will ask for the same information as the previous app, but will also ask for the nozzle you plan to use. Lastly, it will allow you to enter the location of the field, sync to current weather conditions and time your application.

The last of the mixing apps reviewed is Mix My Sprayer by Clemson University Cooperative Extension. This is a pretty bare bones app. You can still select and save your pesticide choices (including herbicides, insecticides and fungicides), and enter the size of the area to be sprayed, the size of the tank you plan to use and the spray volume, it will only calculate the amount of one chemical the tank and does include the of water



to put in at a time not in-amount to use.

Control Corner: Drone Application of Herbicides

The use of unmanned aerial vehicles (UAVs), commonly known as drones, is becoming more and more common in many areas, including agriculture. While usually used to monitor crop growth and other survey applications, UAV companies have recently turned their attention to other uses, including the application of pesticides. Especially useful in inaccessible areas and smaller fields, UAVs are becoming the application method to which many people are turning.

Because this is a new but growing field, the Kansas Department of Agriculture's Pesticide and Fertilizer Program (KDA-PFP) has developed a new policy to permit the use of UAVs or drones for the commercial application of pesticides provided certain requirements are satisfied. First, only pesticide businesses licensed with



the KDA-PFP to apply pesticides are eligible to use UAVs or drones for such pesticide applications, and only if they apply and are issued an authorization from KDA-PFP. Secondly, all UAV or drone operators within those businesses must be certified commercial applicators in one of the five possible categories (1, 2, 3, 5, and 6) and must meet all Federal Aviation Administration (FAA) requirements. Other restrictions apply so, if

you are interested in applying pesticides with UAVs, or would like to know who is registered to apply, contact the KDA-PFP at 785-564-6688.

Along similar lines, some of the county noxious weed departments in the state are beginning to use UAVs to conduct their statutorily required surveys for noxious weeds. While KDA cannot regulate how the weed surveys are completed, they do recommend that weed departments with call a landowner to request permission before conducting a survey with a UAV and to invite that landowner to come and observe the process.

For more information on noxious weed surveys with UAVs contact the Kansas Department of Agriculture at 785-564-6697 or your county noxious weed department.



Plant Protection and Weed Control

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Plant Protection and Weed Control staff work to ensure the health of the state's native and cultivated plants by excluding or controlling destructive pests, diseases and weeds. Staff examine and analyze pest conditions in crop fields, rangelands, greenhouses and nurseries. Action taken to control potential infestations of new pests, whether they are insects, plants diseases or weeds, is beneficial to the economy and the environment.

Our mission is to:

- Exclude or control harmful insects, plant diseases, and weeds;
- Ensure Kansas plants and plant products entering commerce are free from quarantined pests;
- Provide customers with inspection and certification services.

Visit our website at:
agriculture.ks.gov



Invasive Species Spotlight

Grecian foxglove (*Digitalis lanata*)

Like many other invasive species in Kansas, Grecian foxglove was introduced as an ornamental plant but then escaped cultivation and invaded other areas. Unlike many of those other escaped ornamentals, this species has only invaded limited areas, for now. It is of concern not only because of its invasiveness, but also because it is toxic. All parts of Grecian foxglove are poisonous in both fresh and dried forms. Ingesting plant parts or absorbing compounds through skin in direct contact with Grecian foxglove

may adversely affect humans and other mammals and could be fatal. Currently, Grecian foxglove is only found in Wilson County in southeastern Kansas, but, because of its habit of hitching rides on people and animals, it may have spread to neighboring counties.



Grecian foxglove is a biennial species that will sometimes act as a short

-lived perennial. This means that it normally grows for two years, the first year as a rosette of leaves at ground-level and the second as a flowering stem while occasionally living for another year or two. The plant itself is an unbranched stem growing 2- 5 feet tall with many creamy white to pale yellow tubular flowers along the stem. The flowers have brownish-purple venation inside. The leaves are narrow, up to four inches long often with small sparse teeth along the edges. Lots of seeds are pro-

duced each year in bur-covered pods that stick to fur and clothing as a method of dispersal.

Spring or fall applications of metsulfuron methyl or dicamba mixed with diflufenzopyr are effective controls. Digging or grubbing the rosettes or early stems, before seed production are also effective controls. Hand-pulling will also work but be very careful to wear gloves because the toxin compounds in the plant can be absorbed through the skin.