“Identifying and Controlling Invasive Species”

by

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At first you don't see them, but you know they are there. Then, a few show up and then a few more. Eventually, they are everywhere. It's an invasion!! But not the kind of invasions that we learn about in history class. I'm talking about invasive species taking over our rangelands. In Nebraska about 419,000 pounds of forage are lost annually due to invasive species. Over 100 million acres are affected in the United States and another three million are affected each year (*Region 8 - invasive species*). To be able to save our rangelands we need to be able to identify the common invasive species, be aware of how rangelands are affected, and know about the three control methods that can be used to control these invasive species.

Before going over how to control invasive species you must first gain an understanding of what an invasive species is. According to the National Park Service an invasive species is a "non-native species that causes harm to the environment, economy, or human, animal, or plant health" (*What Are Invasive Species?*). These species grow in the form of grasses, forbs, trees, or shrubs, are introduced to the native rangeland, and are perennial.

Some of the common invasive species in Nebraska include Eastern Red Cedar, Leafy Spurge, Musk Thistle and Canadian Thistle, Purple Loosestrife, Salt Cedar, and Phragmites. Each one of these species have different characteristics that identify them. First the Eastern Red Cedar. This tree is a coniferous tree that bears tiny blue seeds. It has needles for leaves and grows year round. Next is leafy spurge. Leafy spurge grows in the form of a forb, has yellow flowers, milks, and grows and blooms during the growing season. The next invasive species are Musk and Canadian Thistle. Musk Thistle is a forb that grows over three feet tall, has spiny leaves, and a brilliant purple flower. Canadian Thistle is similar to the Musk Thistle but has several small purple flowers in place of the large Musk Thistle bloom. Next are the three aquatic invasive species that can be found along the Platte River. Purple Loosestrife is a forb that can grow up to

eight feet tall. It has heart shaped leaves, a deep purple bloom, and grows in sub irrigated and wet areas. Salt Cedar is a tree similar to a Juniper. It can grow up to 20 feet tall and have white or pink flowers. Finally we have Phragmites. Phragmites are a forb that grows up to 15 feet tall and has yellow and green leaves (*Nebraska Invasive Species Program*).

Invasive species have a lot of negative effects on our rangeland. First and foremost invasive species decrease the biodiversity of the plant population and take away wildlife habitat (*Region 8 - invasive species*). Invasive species multiply at a very rapid rate which helps them win the competition for water and sunlight against other plants and grasses. Eventually, they will crowd out all other grasses and plants leaving a pasture of a single invasive species that cannot be used by wildlife or livestock. Secondly, invasive species accelerate soil erosion and runoff (*Noxious & Invasive Species in Grasslands*). This happens because the invasive shrubs and trees take a majority of the sunlight and water which causes the grasses in the area to die out. When those grasses die, so do their roots that were holding the soil in place. This soil becomes bare and is then blown away by the wind or carried away in the next rainstorm. Finally, invasive species take most of the available water from native grasses. This causes the soil to become dryer and our native plants to die. Some of the more aquatic invasive species such as purple loosestrife and phragmites grow in dense spots and restrict the movement of the water which causes a decrease in water quality (*Nebraska Invasive Species Program*).

There are three different control methods that can be used to prevent invasive species from harming our rangelands. The three different control methods are mechanical, chemical, and prescribed burn. The first method we are going to discuss is mechanical removal. This method consists of mowing or cutting the invasive plant at the base closest to the soil surface. You can use mechanical removal for any of the aforementioned species but it is the least cost effective

method and not a permanent solution. It must be used in combination with either chemical control or prescribed burn. Next, we have chemical control. This method consists of spraying chemicals on the base of the plant to kill the invasive species at the root. There are many different chemicals that can be used but you need to use the chemicals in accordance with the habitat, plant species, and state laws and regulations. For example, if you are targeting an aquatic plant such as purple loosestrife, you should use an aquatic approved chemical such as Rodeo. Other chemicals that can be used to control invasive species are Escort, Grazon, Distinct, Garlon 4, and Milestone. Each of these chemicals must be mixed with crop oil so they stick better to the plant and work more effectively. You must be licensed to use this method of control (*Environmental Protection Resources*). The final method of control is prescribed burns. Prescribed burning is a method that works efficiently and is the most cost effective. It is mostly used to control Eastern Red Cedar trees. Prescribed burns work by burning any growing points of the plant and getting rid of any viable seeds that are above the soil surface (*Prescribed Burning of Woody Invasives*).

If invasive species are not controlled, our grasslands could deteriorate beyond use. In conclusion, invasive species have many negative effects and are destroying our rangelands. You are better able to save our rangelands if you are able to identify the common invasive species and know about the three control methods that can be used to effectively control these species. Invasive species are taking over our rangelands and they need to be controlled before it is too late and we lose our beautiful grasslands.

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