

Getting A Grip On Grasshoppers

A look at past devastation, concerns today and ways to manage this historic pest.

Society for Range Management



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Editor's Note: This article was the first place paper presentation in the annual High School Youth Forum competition at the 2004 SRM Meetings in Salt Lake City, Utah.

A grasshopper is an amazing insect that can leap 20 times the length of its own body. If you or I could do that, we would be able to jump almost 40 yards! While I wouldn't have a problem with being able to jump so far, I think landing would be a problem. Right now we are just going to look at resource concerns grasshoppers have caused, are causing, and will cause if we don't manage them.

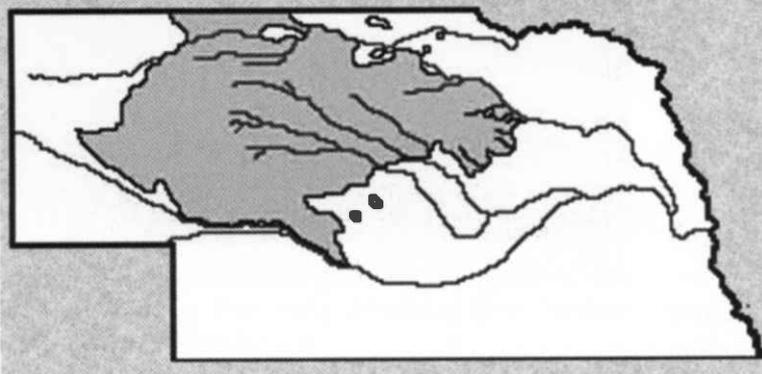
Specifically, I am just going to discuss grasshoppers in a unique part of Nebraska which I call home, the Sandhills. First, we will fly back and look at grasshoppers in our past; then we will hop over to current problems; and finally we will find some programs to manage the grasshopper population.

Looking At the Past

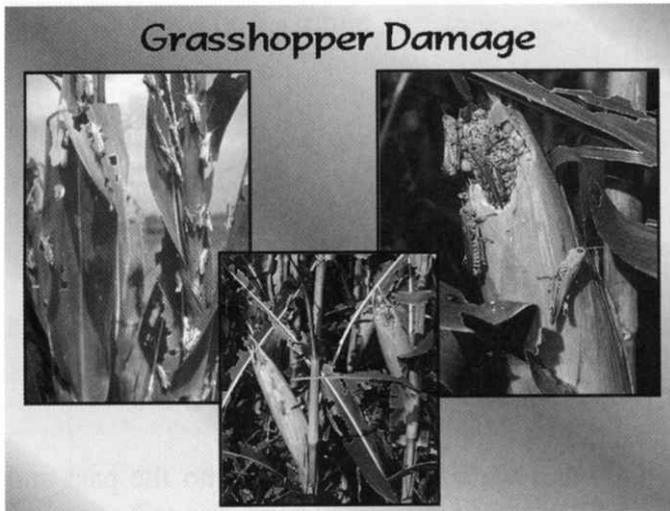
The date is 1874. A few brave families who dared to venture out into the Sandhills of Nebraska to find a place to call home, had planted and spent much time caring for their precious crops. These crops were all that stood between them and starvation. The area there had been visited a few times by the 'Rocky Mountain grasshoppers,' but nothing as bad as the invasion to come.

These grasshoppers mainly lived and raised their families in the foothills of the Rocky Mountains, hence their name. Some years there was not enough food to feed all the little hoppers. When this would happen, they would all gather and fly south or east in search of food. Some nights they would fly all

The Sandhills of Nebraska



Grasshoppers in the Sandhills.



night long and land somewhere in the afternoon to rest and eat. When they flew during the day, they could darken the sun with their numbers, and sounded like an oncoming storm with the vibration of their wings. But there was a deafening silence dreaded by everyone when they landed on the crops and rangeland to devour it.

The first thing they ate was the corn, which they consumed in one day. Then they chewed the gardens level with the ground and left the fruit trees bare. The grasshoppers even ate holes in the carpets and rugs that were draped over favorite plants. Then they started eating the native grass as fast as they could.

They tried to find humor in the hard times, but the despairing people realized that these terrible pests weren't moving on very soon. That year, grasshoppers laid eggs by the billions. Most families only had their crops to live on because they couldn't afford anything else. Now without food, their only choices were to sell or give away their claims and head back east.

A few of the stubborn men stayed and took their horses to find whatever kind of work they could at older settlements. In the spring, the remaining settlers planted the small amounts of grain that they had only to have all the eggs hatch into little hungry hoppers that ate everything.

Fortunately, the baby grasshoppers had no wings and could only hop short hops, but this was not the only factor against them. The animals learned to feed on them, and a late freeze and a wet spring were also hard on them. The settlers tried every-

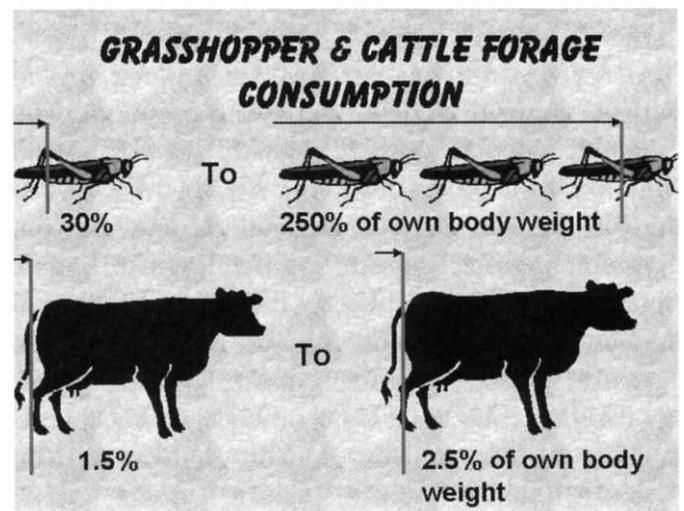
thing to get rid of these hoppers. Everyone lived in fear of the grasshoppers, but within two to three years they were gone. Such vast numbers of grasshoppers have never again invaded Nebraska as in the plague of those years.

Concerns Today

Hopping into present day times and current problems; people of Nebraska are facing some hard times now. In recent years there has been a drought in different parts of the Sandhills. This caused many farmers to lose a high percentage of their crops, and ranchers to be short on hay and pastureland. Many ranchers took their cattle out of pasture early in fear of damaging the fragile Sandhills any more.

Not only was the lack of rain and unbelievable heat hard on the rangeland, the grasshoppers seemed to be booming in population. They took more than their share of the valuable grass that was left. The grasshoppers of course laid eggs so now this year there are many more. History shows what happened in the past. Those were hard times and we should do everything we can to prevent that from happening again.

There are over 50 species of grasshoppers on the Nebraska rangeland. Of these 50, less than 10 species reach economic importance and cause 95% of the damage. Some of the most common species are: whitewiskers, striped, slantface, largeheaded, Elliott, whitecross, migratory, spottedwing, and fourspotted grasshoppers. The amount of forage that the grasshoppers actually consume varies with each species. But the estimated amount of dry for-



age that grasshoppers can consume is 30% to 250% of their own body weight. Cattle only eat 1.5% to 2.5% of their body weight. With this information, you know that one 1250 lb. cow can consume 19-30 lbs. of dry matter a day. It would only take 8 lbs. to 104 lbs of grasshoppers to consume the same amount.

Managing the Menace

The key to managing grasshopper populations is to find the most cost effective approach. This all depends on what kind of land you have, the amount of damage the grasshoppers are causing, and the location of the land. Some subtle things may be done such as leaving a pasture to rest so that the grass can have a chance to re-establish itself. This will only provide a little help in some areas.

The most effective way of reducing the population is spraying. You can do this yourself by buying insecticide and applying it where you think needs it the most. The only insecticides that are registered for the rangelands of Nebraska are dimilin, malathion, and Sevin.

Another approach you could take would be to use the Reduced Agent/Area Treatment, which I will explain in a minute. Many of the government programs use this including the one my family qualified for.

The United States Department of Agriculture (USDA), the Animal and Plant Health Inspection Service (APHIS), and Plant Protection Quarantine (PPQ) offered a cooperative program for qualifying rangeland for grasshopper and Mormon cricket suppression. For your rangeland to be treated you had to meet all the requirements.

First, you had to have a 10,000 acre block of land with no more than 20% of it being cropland. The cropland will not be treated. With this you would sign up for the program and the USDA, APHIS, and the PPQ will evaluate your block. If any blowout penstemon, American burying beetles, Ute Lady's tresses, or Colorado Butterfly Plants were found on the block, it would not be sprayed. They would not spray anything up to three miles around rivers, ponds, or wetlands. 'School Lands' were also exempt from the program. And the land could not have already been sprayed.

Surveyors sent out had to find eight or more grasshoppers per square yard to make spraying economically feasible. If your block met all the requirements, then they would agree to spray it. The most cost efficient way to do it was using the Reduced Agent/Area Treatments (RAATs). This would be using half of the insecticide and taking swaths through the block. This would make the insecticide go further and would still be pretty hard on the grasshoppers. The estimated cost for using Dimilin 2L with Canola oil using the RAAT approach, would be \$3.75 per acre.

Now that we have flown back into the past and learned some interesting history, hopped over and looked at current problems, and found some ways to manage grasshopper populations in the future, hopefully you realize what the grasshoppers have done in the past and the problems that they will cause in the future if nothing is done. So, before you provide more forage for the grasshoppers than your own livestock, I would like to encourage you to do something to manage the population.

Shelly Taylor is a Burwell high school student from Taylor, Nebraska.

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