Erath Ag Update

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SPECIAL POINTS OF INTEREST:

- Grasshopper Control
- Temple Grandin to Speak at Beef Cattle Short-course
- Vitamin A Deficiencies during Drought

INSIDE THIS ISSUE:

Grasshopper Control

When hot, dry weather arrives the grasshoppers always seem to appear. For several weeks now we have been battling grasshoppers in pastures, cropland and home landscapes. There are control options available to assist producers and land owners with managing these insects but they must be applied in a timely manner when grasshoppers are still in the nymph stage.

Grasshoppers thrive when we have consecutive years of hot, dry summers and warm, dry fall conditions. When we have a fall that is dry and warm this allows more time for grasshoppers to feed and lay more eggs increasing their numbers in the spring. If numbers of grasshoppers in the late summer increase that also adds to the mass of eggs laid.

There are fungal diseases that can assist in decreasing numbers of grasshopper but they require spring rains while the eggs are hatching and grasshoppers are young.

Differential Grasshopper
Photo by Extension Entomology
Texas A&M University

There are approximately 150 different species found but the majority of damage comes from 5 different species. They are the Differential grasshopper, Red-Legged grasshopper, Migratory grasshopper, Two-striped grasshopper and the Packard grasshopper. Usually major grasshopper outbreaks will involve more than one species of grasshopper. They are capable of eating ½ their weight each day.

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BEEF CATTLE SHORTCOURSE

Keynote Speaker—Dr. Temple Grandin

The Texas A&M Beef Cattle Short Course is schedule for **August 1-3, 2011** in College Station, Texas. This year's agenda is packed full of great information related to beef cattle production including nutritional management, reproductive management, purebred seedstock production, marketing updates, forage management, range management, live demonstrations on beef cattle handling, chute side work and beef carcass value determination and a tour of the Texas A&M University College of Veterinary Medicine (limited to 100) and a brush busters demonstration. They will also have CEU's available for Pesticide Applicators. (Continued on Page)

Late Season Pecan Management Seminar

Texas AgriLife Extension Service in Comanche, Eastland and Erath County will hose a Late Season Pecan Management Seminar on August 9, 2011. The program will be held at the Comanche Community Center on 100 Indian Creek Drive in Comanche, TX.

Registration will begin at 9:15 a.m. and the program will begin promptly at 9:30 a.m.

Topics covered will include insect management, water management and recovering from drought stress.

There will be a $10.00 registration fee associated with this Pecan Management Program. Please bring correct change or make checks payable to Erath County Ag Committee.

Sponsors will provide a catered meal at the conclusion of the program.

If you have any questions about the program contact Whit H. Weems @ 254-965-1460 or

w-weems@tamu.edu

Grasshoppers continued

"Higher temperatures will accelerate grasshopper egg development, nymphal growth and adult female egg production"

Grasshoppers lay their eggs in the fall about ½ to 2 inches below the soil surface in pods. Pods can include 20 – 120 eggs. These eggs pods seem to be very tolerant of weather conditions. The main areas to find these egg pods include the ditches, fencerows and roadways where there is little soil disturbance. Hay fields and weedy fields will also be an area where grasshoppers may lay their eggs. These eggs will hatch beginning in April with the peak hatch around the middle of June. Cool and dry springs may delay egg lay and let it carry into July. Higher temperatures will accelerate egg development, nymphal growth and adult female egg production. Grasshoppers only have one generation per year but not all of the eggs are laid and hatched at the same time which results in finding grasshoppers of all different growth stages at one time. Once the eggs hatch the grasshoppers are referred to as nymphs. This is the best time to control them. They will look very similar to adult grasshoppers but have wing pads instead of wings. There are 5 different nymph stages (known as instars) before a grasshopper reaches full maturity and begins reproducing.

Grasshoppers prefer rangeland and pastures. They look for vegetation with an open canopy and numerous patches of bare ground or reduced plant density. However when plant growth begins to dry up they will concentrate in areas looking for green plants.

Control Options:

There are three types of control methods for grasshoppers. They include cultural control, biological control and chemical control.

Cultural control includes increasing the live plant basal cover, decreasing open areas and reduced grazing if possible. In cropland you can eliminate weedy areas by tillage, herbicides, sod –forming grasses or mowing. You can also delay planting if possible to avoid the heavy infestations of grasshoppers.

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Drought and Vitamin A

(The following information was taken from Texas A&M *Beef Cattle Browsing*, Dr. Steve Hammack)

Most of Texas is currently under drought conditions, much of them severe. And this condition has persisted for a long time in some areas. One thing that comes into play during drought that is usually not a problem is Vitamin A deficiency. Cattle can store from two to four months supply of vitamin A in the liver on diets exceeding Vitamin A requirements, basically a little something green. That supply can be exhausted in a drought. How do you supply supplemental vitamin A? My colleague Dr. Ted McCollum, Extension Beef Cattle Specialist at the Texas AgriLife Center in Amarillo, recently summarized supplementation of vitamin A:

- most fortified range/breeder cubes fed at 1-1 1/2 lb/day for dry cows or 1 1/2 - 2 lb/day for lactating cows should provide adequate levels of vitamin A;
- mineral supplements, if fortified with 200,000 units vitamin A/lb, would provide adequate levels when consumed at rates of 2-4 oz/day;

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"Farming looks mighty easy when your plow is a pencil and you're a thousand miles from the corn field."

- Dwight D. Eisenhower

Beef Cattle Short Course continued

This year Dr. Temple Grandin will speak at the General Session on Cattle Behavior and Proper Handling Techniques. In addition Ms. Evelyn Browning Gariss a Climatalogist will provide an outlook and Mr. Brett Stuart with CattleFax will discuss Cattle Prices. For more information, to view the full agenda or to register visit the Beef Cattle Short Course web-site at http://animalscience.tamu.edu/ansc/BCSC/index.html or contact the Extension Office at 325-356-2539.

Grasshoppers Continued

All of the cultural options are difficult, especially during dry and hot weather conditions. Cultural controls to protect young trees include vinyl tree protectors, tree wraps and tree trunk painting. Grasshoppers are usually not an issue on mature trees but can cause a great amount of damage to young or newly planted trees. In garden sites you can use floating row covers and place over plants that have heavy infestations. Controlling weeds can be very effective because it will starve out the young grasshoppers and discourage adults from laying eggs in that area due to the lack of food. When making management decisions it is always best to consider fallow fields or overgrown areas first. Areas with a lot of activity or soil disturbance are not ideal areas for grasshoppers to lay their eggs.

Biological control of grasshoppers includes their natural predators such as blister and ground beetles which attack the eggs. Other predators are birds, chickens and other fowl. Biological viruses and fungi found in nature can also help control or reduce the population but are usually not present in dry, hot conditions. Nolo Bait and Grasshopper Attack are a form of biological control that can be used on grasshoppers. It is a IGR or growth regulator that will stop the growth of the nymphs and eventually break the cycle. It does provide good control but must be used when the grasshoppers are small and will not control adults. It does take a while to see the results and is not an overnight fix.

Chemical control of grasshoppers can be used in non-crop land and improved pastures. Some active ingredients in products include carbaryl, zeta-cypermethrin, lambda cyhalothrin, and Dimilin. Dimilin must be used when grasshoppers are young and in the nymph stage.

Homeowners options include using chemicals that include active ingredients such as bifenthrin, permethrin or cyfluthrin.

As with any pesticide, always read and follow the label directions. The label will tell you what crops the products can be used on, how much product can be applied, what insects can be controlled and harvest or grazing intervals.

To be effective against grasshoppers a plan must be in place before grasshoppers begin to appear in large numbers. It takes a plan utilizing the cultural, biological and chemical combination to be truly effective in controlling the pest. You can begin by checking for grasshoppers in the weedy areas and spot treat those areas as needed. In some years you will be able to stop an outbreak at that point.

PRUSSIC ACID

Corn Silage showing severe drought stress

"Livestock can show symptoms of intoxication within 5 minutes of eating plants with the poison, and may die within 15 minutes"

Every year we deal with the potential of prussic acid poisoning in our beef cattle. Producers should be concerned but the more you know the less "anxious" you can feel about this perennial problem.

Prussic acid poisoning is one of the most toxic and rapidly acting of any common poison. It is also called hydrocyanic or cyanide poisoning. Cyogenic compounds can develop in plants that are stressed; in the rumen the compounds are converted to cyanide, which can kill livestock.

Livestock can show symptoms of intoxication within 5 minutes of eating plants with the poison, and may die within 15 minutes. Salivation and labored breathing occur first, followed by muscular tremors, uncoordinated movements, bloating, convulsions and death from respiratory failure.

Although there is little danger of prussic acid poisoning, it can accumulate in plants in the sorghum family, such as johnsongrass, sudangrass, forage sorghums, and grain sorghum. It is also found in bahia, corn, cocklebur, and some other minor plants.

One problem with prussic acid is that it tends to "come and go" in the plant: It may be present for a short time and then dissipate. It appears to occur when plants are injured by herbicides or frost. Severe drought stress can also cause prussic acid to form.

High concentrations of prussic acid may be associated with rapid cell division or rapid growth, such as shortly after a rain or irrigation on previously drought stressed fields, or warm weather after a cool period. Under good conditions, toxic concentrations can also form in young, rapidly growing plants.

On a more positive note prussic acid does dissipate from plants cured for hay. During the drying process the prussic acid turns to gas and is released before baling.

A few tips about grazing sorghum type plants:

1. Do not graze any prussic acid accumulating plants that have been subjected to drought or injury unless they are tested.
2. If plants have been damaged by frost, do not graze until they are well recovered or you can bale the grass for hay.
3. Do not graze plants in the sorghum family until they are 2 to 3 feet tall.
4. After plants have grown rapidly, such as shortly after a rain or irrigation on previously drought-stressed fields, or warm weather after a cool period, wait at least 2 weeks after the plants begin to grow before grazing.

NITRATES IN FORAGES

Another condition to be concerned with in forages is Nitrate poisoning. All forages contain some nitrates, when digested in the rumen the nitrates convert to nitrites to ammonia to amino acids and then to protein. If an animal consumes high concentrations on nitrate it cannot complete the conversion to protein. The animal will convert the nitrates into nitrites and they will be absorbed into the blood. The nitrites are absorbed into the bloodstream and nitrite poisoning takes place by converting the hemoglobin into methemoglobin. Methemoglobin cannot carry oxygen and the animal can die from lack of oxygen or asphyxiation.

The amount of time that it can take for nitrate poisoning to occur depends upon the level of nitrates in the forages. Some causes of nitrate poisoning are:

- Forage consumed contains high levels of nitrate
- The diet changes rapidly or suddenly
- Parasitism or other conditions causing anemia
- Livestock consume supplements of urea or high protein feeds along with forages with moderate or high levels of nitrate
- Livestock directly consume nitrite

How do nitrates accumulate in forages? All plants must have nitrogen to develop properly. When plants become stressed from drought it the plant cannot convert the nitrogen into new growth the nitrates can accumulate in the forages. The stressed plants will continue to absorb nitrogen from the soil but will not have enough moisture to keep the plant actively growing. All plants can be affected with moderate to high nitrate levels but it is most commonly seen in sorghum plants and careless weeds. The nitrate levels can change throughout the day and even over night depending on environmental conditions. The nitrates will usually be found in the lower leaves and stems of the plant.

A few tips to help reduce the chance of nitrate poisoning:

1. Do not turn hungry animals into possible high nitrate forages
2. Have hay tested before feeding if it is possibly high in nitrates (**nitrates will remain in cured hay**)

If hay is high in nitrate, feed in moderation and with other sources of hay and energy supplement. Do not feed high nitrate forages free choice.

"IF YOU WISH TO REMAIN ON THE AG MAILING LIST YOU MUST REPLY TO THIS NEWSLETTER"

MAILING LIST—ERATH AG UPDATE

If you received this newsletter it is because you were on the Erath County Extension Office newsletter mailing address. It has been several years since this mailing list has been updated and over the next few months we will be making changes to the mailing list and newsletters submitted by this office.

My goal is to send out a quarterly Ag Update Newsletter and over time add more subject matter specific newsletters that will be sent out as needed.

If you wish to remain on this newsletter you will need to do one of two things:

1. If you choose to receive this newsletter electronically please send an e-mail to erath-tx.tamu.edu stating to be placed on the Ag Newsletter Mailing list. All e-mail correspondence will be send Blind Copy so your e-mail will not be shared with other.
2. If you choose t o receive this newsletter in the mail please call the Extension Office at 254-965-1460 and let us know to keep you on the list.
3. If you choose not to respond at all your name will be removed from the mailing list.

Thank you and if you have any questions please contact Whit at 254-965-1460.

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DROUGHT AND VITAMIN A

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- stability of vitamin A in supplements can be affected by composition of the supplement, source of vitamin A, and length and conditions of storage;
- injectable vitamin A can be used to provide from about 1-3 months reserve, depending on the cow's stage of production and the concentration and dose of the product.

Supplementation of vitamin A is relatively inexpensive and should be an integral part of drought management.

http://erath-tx.tamu.edu

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