A Note From the New Agriculture Educator

As many of you may already know, as of July 1st, I have been named as the new Agricultural Educator for McCurtain County. We all know that Dennis has left me with some large shoes to fill, but I’m working hard develop the skills needed to assist you with your agriculture and horticulture questions and needs.

We are in the process of selecting a new county 4-H educator so I am currently still filling 4-H duties as well as Ag duties. However, when the county fair is completed in September, I will begin Agriculture programs that I hope will of interest and benefit to the Ag producers of our county. If you have any ideas or concerns, feel free to give me a call anytime. I’m here to help you and look forward to hearing from you.

Sincerely,
Brad Bain
County Agriculture Educator and Interim Extension Director

Watch For Heat Stress in Plants and Gardens

Kim Rebek

It has been another rainy summer for Oklahoma. The heavy rains and moderate temperatures experienced through much of early summer are no doubt ready to give way to unrelenting heat. This change in weather will put some extra stress on our plants. Be sure to keep a close eye on plants and watch for signs of heat stress, such as shriveled and burned leaves. Many plants will also wilt as a result of heat stress. In severe cases, heat stress can lead to plant death.

Lack of moisture can intensify heat stress because plants use water evaporation to cool their surfaces, a process called evapotranspiration. Irrigating plantings frequently during hot weather will help the plants compensate for water loss. It is also a good idea to apply a layer of organic mulch to maintain soil moisture. Of course, even when soil moisture is adequate, a plant may not be able to take up enough water through their roots to balance the moisture lost through their leaves. After many days of scorching temperatures, some plants may succumb to damage. Most plants will recover from heat damage. If you have a plant that appears to have died from the heat, try leaving it in place with the dead leaves covering the crown or center of the plant. You may find new growth emerging before long.
Tips on Fire Ants

By: Dennis Bailey,
McCurtain Co. Ag Agent and CED

Since I found the first official fire-ants in Oklahoma in the fall of 1985, I feel a little guilty for all the destruction and pain they have caused since. As you know they have killed animals, shorted out electrical circuits and injured most everyone in McCurtain County ever since. I will attempt here, in a short version, to give you my best advice for control measures which are the least cost, although still expensive.

Theory 1: Most home remedies, and I have heard them all, will not likely be a good solution. Usually they will cost more as well, especially the gas and diesel methods! While any insecticide will kill ants, the “Colony” is what you need to be after. Ants do not eat solids, they break down solids and feed on the oils and liquids. Therefore the “cornmeal swelling and exploding them” theory will not work!

Theory 2: Always be leery of 100% control claims because if anything will prove this wrong it is a weed or insect. Mom Nature will make a strong effort for the species to survive and the EPA has made a strong effort to eliminate products with long life in the environment.

Theory 3: Fire-Ants are intelligent insects that recognize when there are dangers to the brood such as harsh chemicals, lawn mowers, flood waters, etc, and will move the queen and the salvaged colony from the danger. They do this by communication similar to honey bees. Thus when you disturb mounds violently or treat with ‘quick killer’ chemical products the balance of the colony, deep in the soil will “Save the Queen” and mounds will reappear a few feet away in a few days.

Theory 4: Fire-Ant colonies produce reproductive ants with wings in the spring and fall that fly and infest new areas or areas that have been treated. If you treat a few days before this happens with the short residual products, a month later you will think your treatment was not effective. The longer acting products with “FIPRONIL”, as an example, will solve a lot of this problem if you can afford it and use the proper rate.

Theory 5: THE BEST CONTROL OPTION, in my opinion, based on many meetings and conferences I have attended, is a broadcast treatment with a bait product containing an IGR (insect growth regulator). Examples: Extinguish+, which contains the IGR methoprene, plus a slower regular killer, is labeled for agriculture/grazing areas. Award is a similar product for lawns and non-crop areas. The IGR products do not kill workers, but rather disrupts the ability for queens to produce new ants and the colony dies off with age and starves out. Allow 3-6 weeks for a complete wipeout of the existing colonies. After a day or two, once the queens are fed the IGR, you can then use a harsh regular type insecticide for mounds in areas where you or your animals are in regular contact. This is the Texas Two-Step method.

Notes:

1. The rate for these baits are 1#-1.5#/ acre, which is not easy to put out with hand-held equipment. The more even the treatment the better.
2. Must be broadcast on dry areas not to be watered or rained on in 24 hours for best results. Ants must be actively feeding. Test this with a few corn chips or a chopped up hotdog. In 15-20 minutes they will be all over any meats, oily foods, etc. When they do, start treating with the baits.
3. Should be done in Spring and Fall after the reproductive ants have flown from other areas. Some late flyers will always exist.
4. Try to determine what areas you can live with fire-ants and treat areas around electrical components, play grounds, flower beds/gardens, calving pens and any others you can afford at $8-$10 / acre, twice /year.
5. With these bait products you do not have to locate mounds, just treat the area and you will control colonies that do not even have a visible mounds yet.

If you do not feel comfortable with any chemicals, or do not have the ability to get the correct rate out, HIRE A PROFESSIONAL. Cost will greatly increase but sometimes the cost of an A/C system or newborn animals or a sensitive child will make it worth the investment. They are trained, licensed and insured to do the job as well as possible, and often will re-treat skips and earn you as a customer.

READ ALL LABELS and ask questions if you need help with an effective plan. Avoid the scams on the internet and beware of the legal but questionable language on labels. It is not illegal to say “Kills the Queen” but you may have to get down about 6 foot deep to do it!! Sort of like attacking the Queen of England in Buckingham Palace I would bet.....there are a few obstacles!

Call the OSU Extension Center 580-286-7558 for any information on pest control and agricultural production.
In the competitive world of today's beef industry, producers cannot afford to keep marginally productive cows when they can be replaced by more profitable females. In the face of high fertilizer prices, many producers are looking at herd reductions. One of the ingredients to selecting the cows to cull is the age of the cow. Determining the age of cows up to 5 yrs is simple and accurate. Simply put, she has two permanent incisors as a 2 year old, four as a 3 year old, 6 as a 4 year old, and a full mouth of 8 permanent incisors when she is five. After five years determination is not as accurate, but close enough for practical purposes, since we don’t really care how many years old she actually is as much as we care how efficiently she can graze. As she gets older, the teeth wear down to be less blade shaped and more triangular and spaces start to appear between the teeth.

The chart below should be helpful in learning to age your cows.

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**Diagram 1. Handy guide to determining the age of cattle by the teeth**

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>At birth to 1 month</td>
<td>Two or more of the temporary incisor teeth present. Within first month, entire 8 temporary incisors appear.</td>
</tr>
<tr>
<td>2 years</td>
<td>As a long-yearling, the central pair of temporary incisor teeth or pinchers is replaced by the permanent pinchers. At 2 years, the central permanent pinchers attain full development.</td>
</tr>
<tr>
<td>2-1/2 years</td>
<td>Permanent first intermediates, one on each side of the pinchers, are cut. Usually these are fully developed at 3 years.</td>
</tr>
<tr>
<td>3-1/2 years</td>
<td>The second intermediates or laterals are cut. They are at a level with the first intermediates and begin to wear at 4 years.</td>
</tr>
<tr>
<td>4-1/2 years</td>
<td>The corner teeth are removed. At 5 years the animal usually has the full complement of incisors with the corners fully developed.</td>
</tr>
<tr>
<td>5 to 6 years</td>
<td>The permanent pinchers are leveled, both pairs of intermediates are partially leveled, and the corner incisors show wear.</td>
</tr>
<tr>
<td>7 to 10 years</td>
<td>At 7 or 8 years the pinchers show noticeable wear; at 8 or 9 years the middle pairs show noticeable wear; and at 10 years, the corner teeth show noticeable wear.</td>
</tr>
<tr>
<td>12 years</td>
<td>After the animal passed the 6th year, the arch gradually loses its rounded contour and becomes nearly straight by the 12th year. In the meantime, the teeth gradually become angular in shape, distinctly separated, and show progressive wearing to stubs. These conditions become more marked with increasing age.</td>
</tr>
</tbody>
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**Time To Check Cattle For Gulf Coast Ticks**

by Jack Wallace, SE District Area Livestock Specialist

According to Dr. Justin Talley, OSU Livestock Entomologist, now is the time to check the cow herd for indications of a Gulf Coast Tick infestation, especially if you have had problems with this pest in the past. These ticks are found just inside the ears of cattle, and heavy infestations cause the ears to become thickened and curled resulting in a condition known as “gotch ear”.

This tick has become more prevalent in eastern Oklahoma, and infestations can be seen on cattle from early April to mid-June. Their appearance is similar to the American Dog Tick, being reddish-brown with pale lines along the back, though somewhat smaller than the dog tick.

The tick is considered to carry the causative agent of “Heartwater” disease in ruminants, as well as tick paralysis in cattle. It has also been linked to the causative agent of the first confirmed human infection leading to Rocky Mountain Spotted Fever.

Insecticide ear tags are the most effective means of controlling the tick. In the spring of 2007, Dr. Talley compared the efficacy of the ear tags Python (synthetic pyrethroid), Patriot (organophosphate), and the new Avenger (chlorinated hydrocarbon). Each product represented a different chemistry and different mode of action in controlling the ticks. All tags performed well in controlling the ticks over a five-week period, but Avenger maintained control through six weeks at which time the study was terminated as no ticks were found on the untreated cattle at that time. With the use of ear tags, it is advisable to remove them if horn fly infestations become a problem as you don’t need insecticide resistance building up in the horn fly population.
Unfortunately, although there are many ways to reduce their incidence, calving problems will probably always be with us. It is too late for selection factors to play a role in this spring’s calving, but it isn’t too late to think about some things that can reduce the impact of calving problems. Today we are going to look at three problems that you may encounter; dystocia, prolapsed uterus, and retained placenta.

How much you are able to do on your own depends on your experience level. It is a good idea to visit with your local vet before you experience problems.

Dystocia is simply defined as a delayed or difficult birth. If you lose the cow and / or the calf you obviously have a major loss. Not so easily noticed, however, are the associated losses such as slow breed back, lower pregnancy rates next year, and increased labor, drug and vet costs. Once calving season approaches, there is one simple way to minimize these losses. The closer you watch your cows, the less the losses will be. You should check mature cows 2 or 3 times per day as they approach calving, and first calf heifers should be checked as often as every 4 hours if possible. It really pays to keep the heifers where you can see them often and easily. You will know that birth is near when the udder starts to become swollen and the tissues around the vulva relax. These signs are usually less noticeable in heifers. The onset of active labor is marked by the appearance of the membranes, indicating that the dilation of the cervix is complete. 

The average mature cow is in active labor for 30 minutes, while heifers may take up to 60 minutes. Cows in active labor should make good progress or deliver a calf in one hour. Calling for assistance early may cost more today, but it will pay back big in the long run. Research shows that it is better to assist early as long as the cervix is fully dilated. When assisted early more calves survive and they are healthier. Cows breed back quicker and there are fewer failures to rebreed. Before trying to help, make sure you know what you are doing and how far to go before calling for help. This is where talking to your vet before you have problems is helpful.

Uterine prolapse is a true veterinary emergency. It may follow a difficult delivery. In simple terms the uterus rolls wrong side out and follows the calf through the birth canal, either right away or with the post birth contractions. The tissue mass is large and pendulous, and the uterine vessels are exposed. You can tell for sure that it is the uterus if you can see the caruncles (placental attachment buttons) on the tissue. Call your veterinarian immediately! While waiting for professional help there are a few things you can do. If the cow is up, quietly walk her to a grassy or clean place. If she is down on her side, raise her withers as high as possible and prop her up on her chest with a hay bale.

Retained placenta is not a veterinary emergency. For years we thought that the cow had to be cleaned as soon as possible, but recent research shows just the opposite. The placenta usually is expelled within 12 hours. If it is not, you can consider it abnormal, but treatment should reflect the philosophy of “above all do no harm”. Manually trying to loosen the attachments can damage the lining of the uterus and the attachment points. It is acceptable to apply a gentle external pull with the animal restrained, but if the placenta doesn’t slip easily, take no chances of tearing it. Historically we thought it was important to put antibiotics or antiseptic into the uterus, but current thinking questions this also. While in some cases antibiotics are indicated, especially if the cow is off feed or acts sick, they may also sometimes make the problem worse. They can kill beneficial bacteria that aid in detachment of the placenta and they also eliminate competition that helps to hold the really harmful bacteria in check. Your veterinarian will help you with when to treat and what to use.
These Aren’t Grandpa’s Cows

By: Dr. Glenn Selk, Ext. Cattle Reproduction Spec.

Mature weight and milk production of MANY commercial beef cows are both greater than they were 30 to 40 years ago. Many ranchers have not recently weighed the adult cows in their herd to know what average mature weight to expect. Therefore most commercial ranchers would underestimate the mature size of their cows. To expect large, heavy-milking cows to be in moderate body condition at calving and maintain condition through breeding, they must receive more feed than smaller lighter-milking cows. The graph below uses the 1996 National Research Council’s guidelines to show the energy needs of two different body types and levels of milk production. These energy requirements would be representative for cows calving in February and March and weaned in October. The top line represents the energy needs of 1250 pound heavy-milking beef cows versus the lower line which represents the needs of 1100 pound moderate-milking beef cows. The values graphed are the megacalories per day required to maintain body weight throughout the year.

The larger heavier-milking cow requires about 34% more energy on the average for an entire year. Consequently, an operation that was carrying 100 of the smaller cows must carry only 66 of the larger cows in order to utilize the same quantity of forage from that farm or ranch. She also will need 34% more winter hay and supplement to maintain body condition.

Because we have very high feed and fertilizer prices, this is a time to reconsider herd size to better fit the stocking rates required. Reduced stocking rates will be necessary on improved pastures if lower amounts of fertilizer are applied. The larger mature cow size also impacts the principle of percent body weight needed for heifers to reach puberty. Many ranchers underestimate the target weight for replacement heifers. If the cow eventually will be 1000 pounds, the target for heifers is 650 pounds; if she is going to be the 1250 pound cow in the preceding graph, then she needs to weigh 812 pounds going into her first breeding season to expect a high cycling and pregnancy rate.

Pro and Cons of Dual Calving Seasons

Deciding on the use of one calving season or two calving seasons is a big first decision when producers are choosing calving seasons. Many fall calving seasons have arisen from elongated spring seasons. Two calving seasons fits best for herds with more than 80 cows. To take full advantage of the economies of scale, a ranch needs to produce at least 20 steer calves in the same season to realize the price advantage associated with increased lot size. Therefore having forty cows in each season as a minimum seems to make some sense.

Using two seasons instead of just one can reduce bull costs a great deal. Properly developed and cared-for bulls can be used in both the fall and the spring, therefore reducing the bull battery by half.

Another small advantage to having two calving seasons is the capability of taking fall-born heifers and holding them another few months to go in to the spring season and visa versa. Because of this replacement heifers are always 2 1/2 years at first calving instead of 2 years old. These heifers should be more likely to breed early in the breeding season and have slightly less calving difficulty. Research has shown that these differences are very small, therefore the cost of the other six months feed must be minimal to make this a paying proposition. A disadvantage to breeding heifers to calve at 30 months is found when “open” heifers are culled. They are too old to go the feed lot and produce high grading carcasses that are available for some international markets. Therefore, the older, open heifers will be discounted heavily when marketed after an unsuccessful attempt to get them bred.

Many producers like the dual calving seasons because of the spread of the marketing risk. Having half of the calf crop sold at two different times allows for some smoothing of the cattle cycle roller coaster ride. It is important that an adequate number of calves be born together to a make a marketable package that will not be discounted because of small lot size.
Poultry Litter Value At All Time High

By: Dennis Bailey, McCurtain Co. Agricultural Educator and Brad Bain, McCurtain County 4-H Educator

We have had a lot of questions about the current value of Poultry Litter in McCurtain County due to the high cost of commercial fertilizer. First, a poultry producer or buyer of litter needs to realize the basic facts. First, litter will generally run about 3% for each of nitrogen, phosphorus, and potassium. This means for every ton of litter, there are roughly 60 pounds of each of these three nutrients. When you multiply the per pound cost of the commercial nutrients times 60, you’ll get an estimated value of the litter.

Currently nitrogen is being priced at 50—60 cents per pound depending on formulation here in the county. If you could time a litter application to improved summer grasses, which is March through May for best results, litter nitrogen would be worth around $20—$36 per ton. We usually discount litter nitrogen because some is slow release and not times to the crop or one of the other components is not even needed due to soil test results. Commercial nitrogen is never 100% utilized either, however, due to environmental conditions.

However, if the pastures that the litter is to be applied are also in need of phosphorus and potassium, then the value of the litter increases substantially. With commercial potash priced at around $575 per ton and DAP priced at $960 per ton, the cost savings of using poultry litter for fertilizer can be substantial. As you see in the chart, the value compared with commercial fertilizer can be as much as $100 per ton.

At the $40 dollar level, the poultry producer should be able to cover the cost of the clean out and purchase urea fertilizer for use on their own fields. Most fields that have litter applied on them in the past should be sufficient for both potassium and phosphorus so on those fields, the additional application of litter would result in wasting the P and K value of the litter.

In addition, the producer purchasing the litter at the 40 dollar price could save up to $50 per acre assuming a 2.5 ton per acre application rate compared to the cost of applying a commercial fertilizer. This rate would give them 150 pounds of N, P, and K which on average soils should produce 3—4 tons of forage per acre.

Before considering the purchase or sale of litter, it is imperative that a soil analysis as well as a litter analysis be conducted. Both of these tests can be conducted through OSU simply by bringing the sample to our office located inside the courthouse. Our office can give you a more accurate estimate of the litter value for each situation.

Through proper management and decision making, both buyers and sellers of litter can benefit economically as well as help to protect our environment. Contact the OSU Extension Office at 286-7588 for more details.

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Pounds</th>
<th>Price per lb.</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>60</td>
<td>.49</td>
<td>$29.40</td>
</tr>
<tr>
<td>P</td>
<td>60</td>
<td>.48</td>
<td>$28.80</td>
</tr>
<tr>
<td>K</td>
<td>60</td>
<td>.85</td>
<td>$51.00</td>
</tr>
<tr>
<td><strong>Total Value</strong></td>
<td></td>
<td></td>
<td><strong>$109.20</strong></td>
</tr>
</tbody>
</table>

*Total price does not account for discounting the value of the nitrogen. However, if N is only used at 50—75%, the value is still $95—$100 per ton.

Poultry Waste Training Opportunities

Three Hour Updates
May 20 Hodgen Schools, Hodgen OK 6:00—9:00 p.m.
Contact: Brian Freking, 918-647-8231

May 22 Technology Center, Stillwell, OK 9:00 a.m.—Noon
Contact: Marty Green, 918-696-2253

June 26 Community Bldg., Tahlequah, OK 6:00—9:00 p.m.
Contact: Roger Williams, 918-456-6163

Initial Nine Hour Training
June 14 Fairgrounds, Stigler, OK 8:00 a—5:00 p
Contact: Brian Pugh, 918-967-4330

The next McCurtain County Training will be in the fall.
Using Soap or Surfactant to Increase Pesticide Efficiency
By C. K. Rice, Area Agronomy Specialist

Adjuvant (Surfactants, stickers, spreaders, drift control) are materials that are added to your sprayer tank to increase the effectiveness of the pesticide you are using. How many times have you heard that “soap works just as well”? Well, it might help, but most won’t work as well. First, although soaps are essentially surfactants, they are not as concentrated as surfactants manufactured for use with agricultural pesticides. Household soaps usually have 10-20% surfactant while Ag. Surfactant has a concentration of 50 to 90%. This can make a big difference when it comes to enhancing the effectiveness of pesticide activity. Household soaps can also create problems with excessive foaming in the tank and some of these soaps will react with hard water to produce scum and precipitants that can affect pesticide performance. On the other hand most Ag. Surfactants were developed to work in sprayer tank conditions and are not as foamy and will not react with hard water.

Surfactants, or surface acting agents are most often used with herbicides to help a pesticide spread and penetrate the waxy cuticle of the leaf or to penetrate through the small hairs present on the leaf surface. Since water has a high surface tension it tends to maintain its round, droplet shape when sitting on the surface of the leaf. The surfactant acts to break down this surface tension of the droplet allowing the liquid to spread over the leaf surface. This results in more of the pesticide coming into contact with the leaf and as a result, more of the pesticide gets into the plant.

When you are considering using a surfactant, always consult the label as to the kind of surfactant recommended and to when its addition to the pesticide will help in enhancing the control of the pesticide. Most pesticide companies have spent several years studying how surfactants work with their products and know a lot better than we can guess as to what surfactant will work best with their product.

Water and Soil Fertility Management for the Home Lawn and Garden
By: Jim Shrefler, Area Horticultural Specialist

Just as agricultural producers are having to adjust production plans in response to changing costs of fertilizer and fuels, those who maintain home landscapes and gardens are also feeling the pinch of increased prices. The cost of maintaining the yard and garden can vary considerably depending on factors such as proper power equipment maintenance and operation, use of mulches for weed control, proper fertilizer use, and thoughtfully planned irrigation. Let us discuss the last two of these in depth.

For optimal growth, plants require adequate levels of irrigation and fertility. The time that each of these resources is supplied is also important. If either soil water or soil fertility are inadequate, then the other resource will not be used at full efficiency.

So, where do we begin if we want to be careful about using proper fertilizer and irrigation practices in the lawn and garden? One first step is to keep in mind how plants obtain water and mineral nutrients. Roots grow best in moist, but not excessively wet soil and do not grow in soil that becomes too dry. Plants take up nutrients from soil that has adequate moisture for root growth and the presence of some nutrients, especially phosphorus, favors prolific root growth. Finally, except for nitrogen, nutrients do not move a great distance from where they are applied to the soil. Because of this, phosphorus and potassium sources should be placed in the desired root zone whenever possible.

Vegetable gardens. One suggested approach to vegetable gardening is to begin by soil testing to determine nutrient and liming needs, broadcast recommended potassium and phosphorus fertilizers and incorporate into the soil, and irrigate using a trickle type irrigation system. Once plants are established, be sure the soil is moistened by either rainfall or irrigation to a depth of 8 to 10 inches. This will enable the development of an extensive root system that will sustain the plant when moisture conditions become more demanding. Additional practices that will improve on this approach include the use of compost and mulch. Compost addition to the soil will improve moisture and nutrient holding capacity. Mulch will help by reducing moisture loss from the soil surface, maintaining a favorable soil temperature for plant roots, and, in the case of plastic mulch, prevent excessively wet conditions from occurring in the root zone during periods of prolonged heavy rainfall. OSU Extension Fact sheet HLA-6013, Summer Care of the Home Vegetable Garden, provides additional details on irrigation and mulching practices.

Lawns. In established lawns, it is not as easy to place complete fertilizers in the root zone as is possible during new lawn establishment. However, maintenance applications are needed on occasion and use of complete fertilizers favor root regeneration in the spring and favor winter hardiness in the fall. A soil test is useful for determining when phosphorus and potassium additions, as well as liming, are needed. Nitrogen application might be considered one of the most critical factors when it comes to efficient lawn management. Excessive nitrogen application will not only mean wasted money spent on fertilizer but may also contribute to a heavier mowing requirement and a possible increase in incidence of spring dead spot disease. OSU Extension Fact sheet HLA-6420, Lawn Management in Oklahoma, provides details on fertilizer programs for various types of lawns.

Careful management of irrigation in turfgrass is a key factor in producing a desirable turf and discouraging shallow rooting, soil compaction, thatch, and weeds; conditions that are favored by frequent shallow irrigation. A better approach is to irrigate turf grass when visual symptoms of wilting are evident. These symptoms include footprint formation when turf is stepped on or a change in color to blue-gray. When this occurs, watering should be done so that soil is moistened to a depth of 6 inches. Irrigation practices that use infrequent and deeper watering will favor a deeply rooted turf.
The McCurtain County Ag-Line Newsletter is published by:
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Editor...Brad Bain, Ext. Educator, 4-H/Youth Development

McCurtain County Ag Line Newsletter

May/June 2008

Now online at:  mccurtain.okstate.edu

Lane Agricultural Center Field Day

Saturday, June 21st, 2008
9 a.m.—3:00 p.m.

Learn about current projects including:
• Organic Vegetable Practices
• Weed Control for Organic Growers
• Fertilizer Practices for Organic Production Systems
• Vegetable Plant Disease Control
• Alternative Crops for Fuel
• Selecting and Caring for Lawn Grasses

Free refreshments including cold watermelon
Find out more at www.lane-ag.org