News From Your County Agent
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Greetings to all of you and thank you so much for reading this week. Feels like early spring has arrived to our area in November as we have endured warm balmy days for most of the week, but changes are coming. For the most part the light precipitation we had during the week was mostly annoying not helping much in terms of providing much needed moisture to our native range and pastures, but it is better than nothing, at least it settled the dust somewhat.

Texas A&M AgriLife Finding New Tools To Reduce Losses in Wheat

Many folks in Zavala County have already planted their wheat and hoping for a good yield come harvest time. Greenbug and Hessian fly infestations can significantly reduce wheat yield and quality in Texas and worldwide. Breeding for resistance to these two pests using marker-assisted selection just got a new tool from a Texas A&M AgriLife Research study. Because genetics is the most economical strategy to minimize losses, AgriLife Research wheat geneticist Dr. Shuyu Liu began two years ago searching for breeder-friendly markers for those two insects. This step is a continuation of ongoing genetic work on insect resistance.

Through the years, a number of greenbug resistance genes have been identified in wheat and its relatives based on their differential reactions to different biotypes, which range from A through K. There are also 18 Hessian fly biotypes, and because it has the ability to overcome resistance genes deployed in wheat cultivars through mutations, it is necessary to identify and utilize resistance genes from diverse sources for wheat breeding.

Scientists use genetic markers to identify regions where specific genes can be found on a particular plant. Liu has identified the neighborhoods or markers for a gene offering greenbug resistance, Gb7, and a gene that provides Hessian fly resistance, H32, in wheat.

This project was funded by AgriLife Research and the Texas Wheat Producers Board. Both genes were identified through previous research, and linked markers for them were mapped, but the detection methods were not well suited for marker-assisted selection for evaluating thousands of plants. Synthetic wheats are man-made crosses between Durum or pasta-type wheats and Aegilops tauschii. These initial crosses provide access to genes of the wild relatives of wheat, thus increasing usable genetic diversity for breeders to improve winter wheat varieties.

The mapping population was developed more than 10 years ago by the International Triticum Mapping Initiative, but neither of these genes has been used for resistance in breeding programs to this point, he said.

By crossing wheat lines with the identified KASP markers, the process to develop the pure line with selected properties can be much more accurate. Liu began searching for these markers because the TAM breeding program has made heavy use of synthetic germplasm so the markers will quickly be implemented. To get to this point, Liu utilized genotype-by-sequencing markers developed by other research groups, and ultimately the KASP markers were validated using the set of synthetic wheat lines. Each line of that mapping population was screened for reactions by greenbug and Hessian fly

by two U.S. Department of Agriculture Agricultural Research Service centers. It has been determined that resistance to these pest are very effective under many genetic backgrounds. Genetic diversity and genetic gains are always important to wheat breeders. I will keep you posted as these test are finalized and recommendations of wheat varieties that may tolerate pressure from greenbug and hessian fly pest in wheat in our area.

4-H Receives Complementary Membership From Texas Farm Bureau

Texas Farm Bureau (TFB) is providing a complimentary membership to each of the more than 1,500 4-H clubs across the Lone Star State. TFB's goal is to strengthen the existing relationship with Texas 4-H, a statewide youth organization, by providing educational resources, curriculum support and local resources through county Farm Bureaus. Other programs and projects may also be developed. "Our future lies with our youth," TFB President Russell Boening said. "Texas 4-H members embody that future, participating in activities that develop leaders and drive interaction and engagement in agriculture where opportunities are endless." TFB is a longtime supporter of Texas 4-H, working with the organization in leadership development, service learning and agricultural advocacy and literacy. "Texas 4-H and Texas Farm Bureau share a history of cooperation and service to agriculture. 4-H club membership in TFB will only strengthen our foundation and interaction at all levels. This is especially important at the local level where clubs and county Farm Bureau leaders can work together," said Courtney F. Dodd, assistant director of Texas 4-H Youth Development. "County Farm Bureaus will be an excellent resource for community support, agricultural literacy and education for our 4-H club members. Developing successful future leaders for our communities and agriculture is vital. By working together, our organizations can help achieve that."

Texas 4-H is the largest youth development program with more than 550,000 members active in the organization each year. From food science to robotics and livestock projects to fashion, the many programs in Texas 4-H have roots deep in agriculture. Boening said cultivating that rich history will continue building a solid foundation for agriculture in Texas. "Texas 4-H members already have the pillars they need to succeed—their head, heart, hands and health," Boening said. "The relationship between Texas Farm Bureau and Texas 4-H will help empower those youth to reach their full potential, tackle obstacles and promote agriculture. Our relationship will help grow Texas." Adding the 4-H clubs to Texas Farm Bureau's more than 519,000 member-families, Boening noted, strengthens the organization's role and efforts to be the Voice of Texas Agriculture.

Tip of the Week: Caring For Your Lawn In Winter Months

As most of you have noticed for the most part most of our lawns are going into dormancy and do not require much mowing if at all. I had a couple of calls last week of folks wondering why their St. Agustinegrass lawns were not responding to water and have not grown very much over the last 2 or 3 weeks. Don't panic the grass is just going dormant which means little new growth and best of all no need for mowing. There are a few things you need to remember to do in our mild South Texas winters to keep you lawn healthy.

First remember to not fertilize St. Augustine grass from December through February unless the lawn has been overseeded (planted with cool-season grass to maintain its green color in the winter). Fertilize overseeded lawns once in December and again in February with ½ pound of nitrogen per 1,000 square feet, using a nitrogen-only fertilizer such as 21-0-0. Have the soil tested to determine

the nutrients needed. Come by the Zavala county office of the Texas A&M AgriLife Extension Service office to pick up your free soil sample collecting bag and instructions on how to get a soil sample from your yard and where to send it to get tested. In the absence of a soil test, use a complete fertilizer with a 3-1-2 ratio of nitrogen, phosphorus and potassium.

Watering. Even though St. Augustinegrass is normally dormant in winter, you may still need to water it periodically when the weather is warm, dry and windy. If the lawn has been overseeded, water as you would from March through May. If your lawn is not overseeded you can water once every 10 days to keep moisture available to the root system, so that they can remain viable and healthy when it is time for it to come out of dormancy.

Remember winter time in South Texas is the time to be on the lookout for brown patch disease in St. Augustinegrass lawns. Brown patch is a fungal bacterium in the soil that lays dormant in the hot summer months and becomes active in the cooling weather. It will appear as circular rings and the rings usually have a tendency to grow and expand. This fungal bacterium breeds in the soil from a combination of over-watering and poor drainage, which cause stagnation of the soil's balanced nutrients. A good product to purchase is Turfcide, a granular treatment available in a 50-pound bag. Apply at the recommended rate and repeat the treatment as suggested on the product label until your grass regains its normal, healthy green color. If your lawn has developed a fungal condition for the first time, this is a good reminder to check your sprinkler system's operating time and reduce the run time.

If you are looking for extra work and, in your estimation, your lawn could or should look greener through the winter season, plant some perennial rye grass, which needs cutting every 2-3 weeks and your lawn will look like a golf course fairway all winter! Do not purchase annual rye grass! Annual rye grass will have you mowing every week! The seeds from rye grass will die out with the next season's heat but a few seeds might even survive for the next winter season. The main thing to remember is that just because the lawn does not need mowing and the grass is in full dormancy does not mean that it is not alive, because it is so water during the winter if we do not receive natures water applications. Have a great week and keep your lawn heathy ALL year long.

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