

VOL. 13 | JANUARY 2021

OUR BACKYARD

An agricultural newsletter by Hardin County AgriLife Extension



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From the Agent

Howdy!

It seems that things are not looking as bright as we had hoped for at this moment, as we are once again working from home. AgriLife has shut down face-to-face programming.

However, do not fear! Tammy and I have the office phone forwarded to our cell phones and continue to answer all calls and emails. While I may not be able to make site visits yet there is still a lot of helpful information we can provide through pictures and email.

Happy New Year!

Katie A. Pace | Hardin County Extension Agent



HORTICULTURE

CORNER

In the Garden

Begin pruning fruit trees now and into February to promote earlier blooming

Stop the Crepe "Murder"! They only need dead/crossing branches pruned.

Don't forget to feed our feathered friends. Put out seed and suet to help them stay strong during the winter.

Loopers & Aphids are on the prowl, be on the lookout.

Native Texans



If you ever see a beautifully landscaped yard, chances are they have grasses incorporated into the design. Incorporating grasses in your landscape design allows a place for your eye to rest and make flowering perennials stand out. Gulf Coast Muhly is a

tough native perennial grass with large airy seed head that grows about half as tall as the entire plant. The spikelet's are purple and in fall the plant takes on a feathery, deep pink hue. Perfect for mixing in perennial beds to add graceful movement in the garden. Full to part sun, growing 2-3 ft tall, and tends to clump so plant that way.

What should I plant this month?

From Seeds

Lettuce

Radish

Carrots

Begin Seeding

Tomatoes (Inside)

From Transplants

Broccoli

Cauliflower

Strawberries

Collards

Lettuce

Transplant

Roses

GOOD
read

Self-Deleting Genes to Aim at Mosquito-Borne Diseases

A new Texas A&M AgriLife Research project aims to enable temporary “test runs” of proposed genetic changes in mosquitoes, after which the changes remove themselves from the mosquitoes’ genetic code. ”Zach Adelman, Ph.D, and Kevin Myles, Ph.D., both professors in the Texas A&M College of Agriculture and Life Sciences Department of Entomology are the principal investigators. Over five years, the team will receive \$3.9 million in funding from the National Institute of Allergy and Infectious Diseases to test and fine-tune the self-deleting gene technology. “People are wary of transgenes spreading in the environment in an uncontrolled manner. We feel that ours is a strategy to potentially prevent that from happening,” Adelman said. “The idea is, can we program a transgene to remove itself? Then, the gene won’t persist in the environment. “What it really comes down to is, how do you test a gene drive in a real-world scenario?” he added. “What if a problem emerges? We think ours is one possible way to be able to do risk assessment and field testing. ”

A crucial target for mosquito control

Many genetic engineering proposals revolve around inserting into mosquitoes a select set of new genes along with a “gene drive.” A gene drive is a genetic component that forces the new genes to spread in the population. “A number of high-profile publications have talked about using a gene drive to control mosquitoes, either to change them so they can’t transmit malaria parasites anymore, or to kill off all the females so the population dies out,” Adelman said. An often-voiced worry is that such genetic changes could carry unintended or harmful consequences.

One plan makes the cut

In the project's first publication, the colleagues describe three ways for an introduced genetic change to remove itself after a designated period of time. The time period could, for instance, be 20 generations of mosquitoes, or about a year. The team modeled how the genes would spread among mosquitoes based on generation times and parameters of an average mosquito's life. Of the three methods, the team has chosen one to pursue further. This method takes advantage of a process all animals use to repair damaged DNA, Adelman said. Inside cell nuclei, repair enzymes search for repeated genetic sequences around broken DNA strands. The repair enzymes then delete what's between the repeats, he said. So, Adelman and Myles' team plans to test in fruit flies and mosquitoes a gene drive, a DNA-cutting enzyme and a small repeat of the insect's own DNA. Once the introduced enzyme cuts the DNA, the insect's own repair tools should jump into action. The repair tools will cut out the genes for the gene drive and the other added sequences. At least, that's what should happen in theory.

Failure is not just an option, it's part of the plan

The team has already started lab work to test different gene drives and determine how long they last in flies and mosquitoes. The goal is to see a gene drive spread rapidly through a lab insect population. After a few generations, the added genes should disappear and the population should again consist of wild-type individuals. "We assigned various rates of failure for how often the mechanism does not work as expected," Adelman said. "The models predict that even with a very high rate of failure, if it succeeds just 5% of the time, that's still enough to get rid of the transgene."

Upcoming Programs for *Nardin County*

Texas A&M AgriLife Extension has suspended face-to-face programming. As we are allowed to do hold events again, we will let everyone know.

The entire agency has been working together in an effort to bring you CEUs and great online programs! I have included just a few that might be of interest to you, but there are so many more coming up on agrilifeextension.tamu.edu

There are also many different programs on agrilifelearn.org



TDA has allowed AgriLife to create a completely online Texas Private Pesticide Applicator Training. This training is \$75 on the AgriLife Learn Portal agrilifelearn.tamu.edu



TEXAS DEPARTMENT OF AGRICULTURE
COMMISSIONER SID MILLER

Texas A&M AgriLife Extension Service - District 9 Southeast Texas

5th Annual Town & Country 5-Hour CEU Recertification Seminar

January 14, 2021

Check-in, 7:30-8:15a.m.

Program, 8:30 a.m. - 3:30 p.m.

Lunch, 12:00 - 1:00 p.m.

Location

On Site / Virtual Hybrid

Presenters will be live-streamed from their individual sites.

At this time the Hardin County Extension Office can only offer the program virtually, however this may change depending on agency guidance.

More Information

Katie Pace

**County Extension Agent—
Agriculture & Natural
Resources**

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TEXAS A&M
AGRILIFE
EXTENSION

Topics & Speakers

5 CEU's

Laws & Regulations

Brad Tullis, Inspector, Texas Department of Agriculture
1 TDA L/R, 1 SPCS General

Weed Control in Pasture & Hay Meadows

Dr. Vanessa Corriher-Olson, Extension Forage Specialist
Overton Center, Texas A&M AgriLife Extension Service
1 TDA IPM, 1 SPCS Weed Control

Pesticide Labels & Sprayer Calibration

Dr. Matt Matocha, Extension Program Specialist
Soil & Crop Sciences, Texas A&M AgriLife Extension Service
1 TDA L/R, 1 SPCS General

Managing Soil Fertility for Weed Control

Dr. Jake Mowrer, Extension Specialist
Soil & Crop Sciences, Texas A&M AgriLife Extension Service
1 TDA IPM, 1 SPCS Weed Control

Housefly & Livestock Vector Control

Dr. Sonja Swiger, Extension Specialist
Stephenville Center, Texas A&M AgriLife Extension Service
1 TDA General, 1 SPCS Pest Control

Registration & Cost

\$50/person (plus processing fees)

Register by **Jan 10** at <https://jan14ceu.eventbrite.com>



Floral Fridays

Join Horticulturist
Stephen Brueggerhoff
and

Celebrate Plants in Bloom

This is an ongoing Facebook Live program
Every Friday at 11 AM
www.facebook.com/brazoriacountyextension



If you need special accommodations, please contact the Extension Office no later than seven days before the program so we can consider your request. Texas A&M AgriLife Extension provides equal opportunities in its programs and employment to all persons, regardless of race, color, sex, religion, national origin, disability, age, genetic information, veteran status, sexual orientation, or gender identity. The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating.

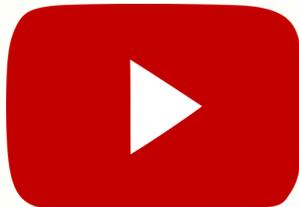
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information and programming
efforts:

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and Development



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Hardin County 4-H

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The Texas A&M University System, U.S. Department of Agriculture and the County Commissioners Courts of Texas Cooperating

Individuals with disabilities who require an auxiliary aid, service or accommodation in order to participate in this meeting are encouraged to contact the Hardin County Extension Office at (409) 246-5128 two working days prior to the meeting to determine how reasonable accommodations can be made.

Get involved with Hardin County Extension

Please consider joining the Hardin County Agriculture Committee to provide leadership and suggestions for upcoming programming. You don't have to make a large time commitment, with as few as four meetings per year, but we would love to hear your ideas and for you to share input on your county!

Please contact the office to update your email address, or if you know someone that would like to be added to this list, at (409) 246-5128, or by email katie.pace@ag.tamu.edu. We also welcome suggestions for upcoming newsletters!

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<http://hardin.agrilife.org>

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