Field Notes

Kerr Center for Sustainable Agriculture E-Newsletter

E-Field Notes
June 2020

In this issue:

Welcome to summer! As the weather heats up, fire and water come closer to the forefront of our minds - worrying about the risk of wildfire, and trying to make sure there's enough water for crops and livestock.

This month, we've got stories about how **good fires can help prevent bad fires (along with creating a whole host of other benefits)**, and about a program that lets **some farmers and ranchers protect wetland areas for others**.

First, though, check out the results from Education/Horticulture Manager **Karlee Pruitt's recently completed thesis project on biopesticides in strawberry plasticulture in high tunnels**.

Also, don't miss David Redhage's update on the **native plant landscaping at the Kerr Center office**. Several years after establishment, the bed **has naturalized well and is a hot spot for pollinators**.

Whether you're concerned with fire, water, pest management, pollinators, or one of the many other aspects of sustainable farming and ranching, we work hard to try to bring you the most **useful and up-to-date information**. When you **donate** to the Kerr Center, it tells us we're doing that - and helps us do it better. **Thank you!**

President's Note: Native Plant Landscaping at the Kerr Center Office

I have been working for several years with **native plants** to develop pollinator habitat around the Kerr Center office. One thing I have learned is to have patience with native plants as they establish.

Over time, the landscape will naturalize, and the perennial plants seem to become more attractive to pollinators as they become established.

The photo I have included is a bed going up the walkway into the Kerr Center entrance. There are currently six native species in the bed:

- St. John's wort (*Hypericum prolificum*)
- **Rattlesnake master** (*Eryngium yuccifolium*)
- Yellow puff (*Neptunia lutea*)
- Pale purple coneflower (*Echinacea pallida*)
- Pokeweed (*Phytolacca americana*)
- False dandelion (*Pyrrhopappus* species)

The only one of these purchased at a nursery was the St. John's wort; however, I did also find some growing naturally on the Kerr Ranch. I collected seed from rattlesnake master, yellow puff, and pale purple coneflower. The rattlesnake master and the low-growing yellow puff were planted in the bed as potted plants. The coneflower originated from a bed nearby, where I have a collection of Echinacea species planted. The pokeweed and false dandelion came up on their own.

The rattlesnake master has naturalized over several years, and it took three years before pollinators started using it heavily. Now it is absolutely covered with pollinators when in bloom.

The yellow puff has been recommended as a potential groundcover, which is why I planted it in the bed to see how it would do. It did fine for several years, but I really thought it had limited potential as a groundcover until the last two years. It seems to have settled in and is now looking good, especially with the taller plants.

The plants that originated as seeds collected on the Kerr Center Ranch seem to naturalize more easily. I have always advocated collecting or sourcing native plant seed, or plants grown from seed, near where you live, as having the highest chance of success when grown in your landscape. It seems to hold true for this bed in the Kerr Center landscape.

Biopesticides for Strawberry Plasticulture in High Tunnels

The Kerr Center's new Education / Horticulture Program Manager, Karlee Pruitt, recently finished her Masters of Science in Horticulture from the University of Arkansas. There, she completed a master's thesis project on the efficacy of different ***biopesticide combinations for strawberry plasticulture production in high tunnels****. The goal of this project was to determine which combination of biopesticides had an advantage in fruit marketability, and for disease and mite control, compared to the untreated control.*

What are biopesticides?
The U.S. Environmental Protection Agency classifies biopesticides as pesticides produced from natural materials: animal, plant, bacteria and certain minerals.

Common compounds that make up the active ingredients consist of microorganisms (bacteria, fungi, oomycetes, viruses, and protozoa), biochemical (essential oils, chitin, and chitosan), semiochemicals (insect pheromones), and plant incorporated protectants (PIPs). These compounds are considered to have low risk for people, wildlife, and the environment.

Biopesticides have been used for centuries; however, due to lack of popularity and efficiency, the biopesticide market is considered a niche market. Nevertheless, consumers and growers alike have gained an interest in biopesticides. In 2018 the biopesticide market was valued at $3 billion, but that value is expected to double to $6.4 billion by 2023.

Project Design
This project was completed over a two-year period beginning in 2017 and ending in 2019. In October of each year, two strawberry cultivars, "Camino Real" and "Sweet Sensation," were planted in raised beds under a high tunnel. Six treatment options were tested, consisting of one control, one nutrition-based treatment (CAB), and various biologically based fungicides and insecticides (listed in the table below). The chemicals listed for each treatment combination were mixed and applied together as one spray for each application.

Results
In 2018, the control treatment had the highest marketable weight over the other biopesticide combinations. Disease incidence was 25%, and two-spotted spider mite populations were above the economic threshold (ET) of 5 mites per leaflet.

Continue reading....

Wetland Mitigation Banking Grants

To participate in most USDA programs, farmers and ranchers have to commit to not destroy or damage any wetland areas on their operations.

Sometimes, a particular producer's circumstances can make that impractical, or even impossible. In such cases, **the Farm Bill allows the producer to mitigate the damage or destruction of wetlands on-site by purchasing credits from a wetland mitigation bank**.

A wetland mitigation bank is simply an area of wetland that has been restored, enhanced, or created. (Simply protecting existing wetlands does not count toward a mitigation bank; the idea is to create or enhance wetlands to compensate for their destruction or degradation elsewhere.)

USDA's Natural Resources Conservation Service (NRCS) offers **Wetland Mitigation Banking Program grants to help conservation partners develop or establish mitigation banks**.

This competitive grants program helps states, local governments, and other qualified partners develop wetland mitigation banks to restore, create, or enhance **wetland ecosystems**.

Applications for the 2020 round of the Wetland Mitigation Banking Program are due by July 6.

For more information, visit the USDA-NRCS Wetland Mitigation Banking **website**, or **email** the program.

Burning Brush for Beef and Butterflies

We've talked in the past about **what a powerful tool prescribed fire can be**, both for **managing forage** and for enhancing **pollinator habitat**.

The **Nature Conservancy of Oklahoma** recently published an **online article** that illustrates how one Oklahoma ranch is putting those pieces together.

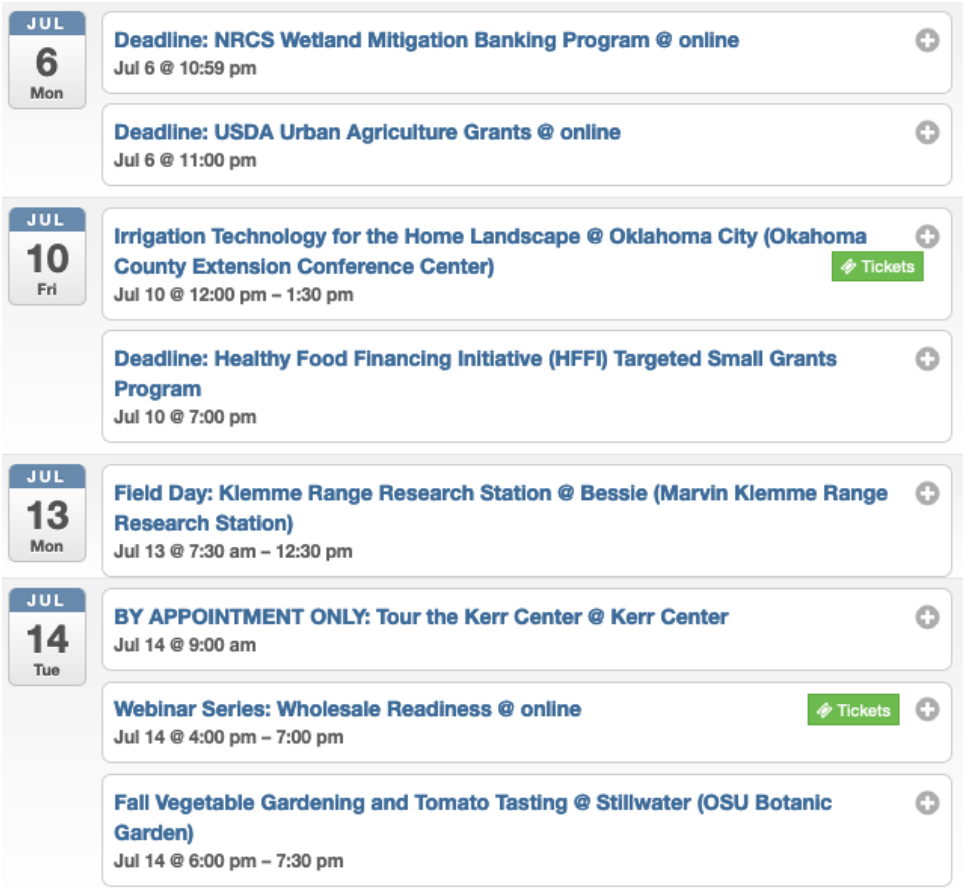
Lazy KT Ranch is a 4th-generation family ranch in northwestern Oklahoma with a long-term eastern red cedar problem. The current owners, Katie Blunk and Michael Horntvedt, first initiated a prescribed fire program in 2016, following up on burns conducted by Blunk's mother in 2005 and 2007. They are aiming for a three-year fire return interval.

The burns have been effective at reducing the cedar infestation, but that is only the beginning of the benefits. Cattle are drawn to the fresh regrowth following the burns, letting fire take the place of fencing over much of the ranch. A **flush of wildflowers** tends to follow in the wake of fire, drawing pollinators to the area as well.

Blunk not only oversees the prescribed fire program on her own ranch, but also serves as the president of the Cimarron Range Preservation Association. As we've **described before**, such **prescribed burn associations, or PBAs, are a great way for groups of neighboring ranches to help each other** initiate and maintain prescribed burning programs - **sharing equipment, expertise, and personnel**, while developing good working relations with local safety agencies.

The Nature Conservancy article goes into detail on KT Ranch's prescribed fire program and its benefits, and includes a short video interview with Katie Blunk. **It's well worth a look!**

Early Summer Events: Grant Deadlines, Home Irrigation, Fall Gardening...



More grant application deadlines keep rolling in, and some in-person events are starting to pop back up, while online learning opportunities still abound. The **deadlines for USDA's Urban Agriculture Grants and NRCS' Wetland Mitigation Banking grants are both July 6, with the Healthy Food Financing Initiative Grant deadline falling July 10**.

Learn about **irrigation technology for your home landscape** on July 10 (Oklahoma City), and get the latest on range research at a **Klemme Research Station field day** July 13 (Bessie area). July 14, go online for the first of a **three-part webinar on wholesaling**, or head to the OSU Botanic Garden for a **fall gardening workshop**.

Tours of the Kerr Center are open again, but by appointment only, and only for outdoor areas of the ranch. Please see our **tour page** for details.

Full details on these and other sustainable agriculture learning opportunities, as always, can be found on the Kerr Center's online **events calendar**.

Don't forget that you can also use our online calendar to **keep yourself and your friends up to date** on these and other upcoming events, including our tours:
- **Subscribe to our feed** and receive **updates to your personal calendar** as they are made.
- **Share events on the calendar** via a number of **different social media sites**, including Facebook, Twitter, and Pinterest.

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