June 2022

Go to www.sunflower.ksu.edu for more details on these programs.

Inside Your Newsletter...

Estimating Western Corn Rootworm Hatch and Adults..................Crop Production page
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Mark Your Calendar
For
K-State Wheat Plot Tours

Wheat Plot Tour Schedule
June 7            Wallace County
                  6:30 am MT breakfast at CAB
                  7:30 am MT at Mai Farms
                  10:00 am MT at E&H Farms

June 7             Sherman County
                  5:30 pm MT at F&J Farms
                  Supper to follow at 4-H Building

June 8            Cheyenne County
                  5:30 pm CT at Hingst Farm
                  Sandwiches in the field after the tour

Directions to the plots:
Mai Farms – 9 mi south of Sharon Springs on Hwy 25 to Field Road, 4 miles east and
¼ mi south
Purvis Farms - 3 mi west of Weskan on Hwy 40 to Road 3 and south 5.5 mi (south of
intersection of Gooseberry Rd and Rd 3)
F&J Farms - 7 miles north of Goodland on Hwy 27, east of the scale house
Hingst Farm – 13 miles west of St. Francis on Hwy 36 to Road 2, 4 miles north
Degree-day models are useful tools for estimating the development of many different insects, allowing us to predict when potential pests might begin to impact a crop. In the case of the Western Corn Rootworm (WCR), degree-day calculations can be used to determine the onset of egg hatch in an area, peak egg hatch and the timing of adult emergence.

The most damaging stage of WCR is the larval stage. Freshly hatched larvae feed on root hairs and the surface of young roots. As they grow, feeding intensifies and the larvae start tunneling into larger roots and begin pruning developing tips of brace roots. Yield loss occurs when severe infestations weaken the root system, causing plants to lodge. Without adequate scouting, often times the problem is not apparent until it is too late. Having an estimate on when eggs are going to start hatching and peak in an area will ensure that scouting is done when root damage is fresh, easy to identify and, most importantly, before the damage becomes severe.

**Growing degree days for WCR egg hatch**

As with all degree-day models, the base temperature, or developmental threshold, will be important for predicting rootworm hatch and emergence. Western corn rootworm eggs are laid in summer and overwinter in the soil. The following spring, a threshold soil temperature of 52°F or higher will trigger eggs to begin developing. This base temperature along with daily 10cm high and low soil temperatures are used to monitor egg hatch using the formula below (Figure 1). It is important to note that degree day calculations for egg hatch should begin starting January 1 of the current year.

Eggs should begin hatching after approximately 380 degree days have accumulated. Peak egg hatch occurs between 684-767 accumulated degree days. Examining corn roots for damage 10 to 14 days following peak hatch is recommended since feeding damage will be fresh and easier to detect.

**Growing degree days for WCR adult emergence**

As with egg hatch, knowing when adult rootworms might be emerging in the field will help make sure both scouting efforts and insecticide applications are timed correctly. Male and female corn rootworms emerge at different times. Peak male emergence is always prior to peak female emergence. This life strategy ensures that males will always have access to newly emerged females. If insecticide applications are to be made in order to reduce egg laying, spraying too soon when the field is predominantly occupied by male beetles will do nothing to reduce potential rootworm pressure the following season. Using this method to estimate adult emergence is not meant to replace scouting, in fact this requires scouting to begin earlier than beetles should be emerging. The reason for this is to determine a “biofix”. Rather than simply using January 1 of the current year, the biofix is the point in time when degree days begin to accumulate and, in this case, the biofix is the date that an adult rootworm is first observed or trapped in a field. Another important difference with the adult emergence model is that air temperature data is used instead of soil temperature.

While male rootworm emergence begins before female emergence, there is overlap. Peak male emergence can be expected at approximately 118 degree days and with 505 accumulated degree days male emergence should be concluded. Peak female emergence can be expected at approximately 245 degree days and concludes at 629 degree days. Scouting will require more effort and time; if the first beetle detected is a female, the window of opportunity to use this tool has already passed.
Early Weaning as a Drought Mitigation Strategy

Keith Harmony, a range scientist and K-State researcher out of Hays stresses that precipitation in May and June is vital for optimum forage production on pastures. Grazing research has been conducted at the KSU Agricultural Research Center—Hays since the 1940s. Using 40 years of data, researchers have studied the relationship between precipitation amount and timing to end of growing season forage production. The study suggests that forage production on shortgrass rangeland is most efficient when the precipitation in May and June is 6.25 inches or below (Harmony, 2022). This relationship is illustrated in Figure 1. which represents the relationship between May and June precipitation and forage production. This time period is crucial to production as it coincides with the physiological stages of western Kansas’ dominant rangeland grasses in which the most rapid growth occurs. Actually, 65% of the forage production during a growing season typically occurs by the end of June (Harmony, 2022).

The results of these grazing studies stress that the end of June becomes a vital time period to make decisions about how forage will be managed for the remainder of the grazing season. Understanding when a majority of the forage growth occurs on pastures, how much precipitation the area has received and when can be used as a good predictor of pasture productivity (Harmony, 2022). In short, with less than ideal conditions producers should manage pastures very carefully and make changes as needed as to preserve pasture health as much as possible.

One strategy that has been used to mitigate stressors that come with drought is weaning calves early to reduce cow nutritional needs and extend forage availability. Some research by South Dakota State University weaned calves 90 days early which resulted in a reduction of forage disappearance by 36%, otherwise 18.9 pounds per head per day. This reduction in forage use resulted in an additional 1.1 AUM over the remaining 90 days opening up options for additional grazing (Rusche, 2021). This extension of available forage can provide options for grazing cows as well as reduce the risk of overgrazing. Furthermore, early weaning can reduce the nutritional requirements of the cow as lactation ceases. Without the demand of lactation, body conditions may improve and reduce the need to add body condition in winter before the subsequent calving season. Again another advantage for producers when feed supplies may be limited.

While it is ideal to let the cow raise the calf on a low cost feedstuff like grass in comparison to a feed ration, drought and forage availability can force producers to strategize and adjust as needed. In general, early weaned calves are more efficient compared to calves weaned at the traditional size and age. However, this calf efficiency can be expected when provided a high quality diet. Calves weaned 90 days early require a diet containing 16% crude protein and 70% TDN (Rusche, 2021). One early weaning approach is creep feeding calves while still on pasture, then sorting the cows off to wean, and finally utilizing feedstuffs such as crop residue (if available), cover crops, or grain regrowth to cut costs.

Early weaning, however comes with its own set of challenges. If drought and forage availability is a widespread problem, producers who utilize an early weaning strategy may find a flooded market when it comes time to sell calves. Furthermore, young calves in the feedlot are seen as a challenge in terms of facilities and management. Due to these difficulties selling younger calves in a flooded market and likely into a feedlot, producers are encouraged to retain calves to a more traditional size before selling when resources allow.

Beyond marketing concerns, there are also health concerns to be considered. The stress of weaning combined with some of the hottest and dustiest months of the year can encourage respiratory disease to take off. Implementing a sound vaccination program, planning around the hottest days, and cutting down on dust as much as possible are all good practices to limit risk.

In summary, drought always seems to be a looming problem requiring livestock producers to adjust as needed. Taking into account the amount and timing of rainfall received, available forage, the market, and other resources there are strategies to lighten the load. To offset these potential challenges, early weaning is best for producers that can implement a sound vaccination program, have access to other feedstuffs, and retain calves until they reach a more traditional age and weight to sell.

For more information on early weaning please visit or call the Cheyenne County Extension Office at (785)332-3171. For more resources and event announcements, please follow us on Facebook at K-State Research and Extension Sunflower District.
What Is Stress?

Everybody experiences both good and bad stress. It can come from mental activity, emotional activity, or physical activity.

The way you interpret stress is unique and personal. For example, what may be relaxing to one person may be stressful to another. Good stress can be healthy and useful. It helps you get to an appointment on time or meet a deadline. But when stress becomes overwhelming, it becomes distress, or bad stress. Bad stress can lead to chronic stress, which can leave you feeling nervous, on-edge, and tense. It also puts you at greater risk for numerous health problems, including heart disease, sleep problems, digestive problems, depression, obesity, memory impairment, and various skin conditions, such as eczema. Learning what causes stress and different ways to cope with it helps you be more balanced and healthy throughout life.

People who are experiencing stress overload may notice:
- anxiety or panic attacks;
- a feeling of being constantly pressured, hassled, and hurried;
- irritability and moodiness;
- physical symptoms, such as stomach problems, headaches, or even chest pain;
- allergic reactions, such as eczema or asthma;
- problems sleeping;
- drinking too much, smoking, overeating, or doing drugs; and;
- sadness or depression.

Everyone experiences stress a little differently. Some people become angry and act out their stress or take it out on others.

Some people internalize it and develop eating disorders or substance abuse problems. And some people who have a chronic illness may find that the symptoms of their illness flare up under an overload of stress.

Stages of Stress

The body reacts to stress in three ways:
Stage 1: Alarm.
Certain hormones are pumped into the bloodstream, which speeds up the heart rate, increases respiration and slows down digestive activity. The body is ready for either fight or flight. Such a situation can lead to stress-related illness such as ulcers, headaches, backaches, palpitations of the heart, rashes and other ailments.

Stage 2: Resistance and Adaptation.
The body tries to repair the damage caused in stage one and bring the body back to a “normal condition.” It is only when stress is not positively dealt with that the third stage occurs.

Stage 3: Exhaustion.
A person’s body cannot be stressed all the time. Release must occur or illness may result.

Having realistic expectations of yourself, shifting your focus to looking at what is really important, and taking care of yourself emotionally and physically will also increase your confidence to deal with stressors. Sometimes, taking a deep breath, meditating, relaxing, or taking time to smell the roses allow you to appreciate the little things so you don’t overreact to the big things.

Throughout the lifespan, you face multiple demands, but stress should not rule your life. Learning what causes stress and different ways you can cope with it is a healthy lifestyle behavior that will reduce pressure and anxiety and influence optimal aging.
Sunflower Extension District and 4-H will offer a variety of summer youth STEM programs in Cheyenne, Sherman, and Wallace Counties.

I want to learn more! Please send us information.

Name__________________________
Address_________________________
E-mail__________________________
Phone__________________________

Return by mail to: Sherman County Extension Office
813 Broadway, Room 301, Goodland, KS 67735
Call 785.890.4880 to give us the information on the phone.
Use the QR code to the right to sign up for information.

Contact:
Karen Nelson, 4-H Youth Development Agent
Sunflower District—785.890.4880
karennelson@ksu.edu

K-State Research and Extension is an equal opportunity provider and employer.
Congratulations to Domenic Baldwin and Jordyn Faulkender for receiving the Cheyenne County 4-H Scholarships. Best wishes for your futures!

Did You Know???
These are just a few of the opportunities 4-H has to offer. Check them out at https://www.kansas4-h.org/events-activities or contact the Extension Office at 785-332-3171

County Fairs * Kansas State Fair * County Camps
Rock Springs Camp * 48 Hours of 4-H * CIA Citizenship in Action
CWF Citizenship Washington Focus * Discovery Days
Dog Conference * Dog Qualifiers * Dog Show
Geology Field Trip * Global Citizenship: Exchange Programs
Horse Judging * Horse Panorama * Horse Qualifiers
Horticulture Judging * Insect Spectacular
KVF Kansas Volunteer Forum * KYLF KS Youth Leadership Forum
National 4-H Conference Award Trip * National 4-H Congress Award Trip
Photography Shutterbug events * Shooting Sports Qualifiers
Shooting Sports State Matches * SYLF SW Leadership Youth Forum

2022 Cheyenne County Fair Theme- County Strong and Carrying On!
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<td><strong>JUNE 1 DEADLINE</strong> - County Breeding Swine, Lamb and Goat ID’s</td>
<td>Prairie Day Camp</td>
<td>Discovery Days</td>
<td>Babysitting Clinic</td>
<td>Deadline to order State DNA envelopes for small livestock</td>
<td>Fishing Clinic</td>
<td>Aerospace Camp</td>
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<td><strong>CNCo. Registration Papers Due</strong> - State * Nominations Due Heifer, Sheep, Swine, Goat</td>
<td><strong>Flag Day</strong></td>
<td><strong>CN County Horse Show</strong></td>
<td><strong>Happy Father’s Day</strong></td>
<td><strong>SUMMER is here!</strong></td>
<td><strong>CNCo. Registration Papers Due</strong></td>
<td><strong>Survival Skills Camp</strong></td>
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*June 1 Deadline for County Breeding Swine, Lamb and Goat ID’s*
Important Dates

June 1 - 4..........................Discovery Days
June 2...............................Little Camp on the Prairie
June 7...............................Babysitting Clinic
June 9...............................Fishing Clinic
June 10.............................Aerospace Camp
June 12.............................Prairie Dale
June 15.............................Small Animal Livestock Nominations Due
June 18.............................Cloverbuds
June 20.............................Country Clovers
June 23.............................Photography Camp
June 25.............................Survival Skills Camp
June 26.............................Sunflower 4-H
June 28.............................Farm to Fork

Wheat Tour TBA
Ruelton Eager Beavers TBA

Fair Theme:

Carnival Lights & Country Nights

Northwest Kansas District Free Fair, Inc.

July 30 - August 6th
Goodland, KS

All 4-H entries are due
Wednesday, July 13, 2022,
by 5:00 PM MST

Pre-Fair & Fair week information can be found
at the NWKS District Free Fair Website:
https://www.nwksfair.com/schedule/

Fairbooks are printed and can be picked up at the
Extension Office.

May, June, & July Events

The Sunflower Extension District is
kicking off the summer with many
camps in the district.

Little Camp on the Prairie
June 2, 2022
Sherman County

Babysitting Clinic
June 7, 2022
Sherman County

Fishing Clinic
June 9, 2022
Bellamy’s Fishing Pond

Aerospace Camp
June 10, 2022
Bird City, KS

Photography Clinic
June 23, 2022
Cheyenne County

Survival Skills Camp
June 25, 2022
Cheyenne County

Livestock Learning Day
July 9, 2022
Cheyenne County

Missed Graduation
Announcement in the
May Newsletter.
Congratulations also goes out to
Emily Wolf!

https://www.facebook.com/
sunflowerextensiondistrictshermancounty4h/
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<td>2. Little Camp on the Prairie 8:00–12:45 PM (MT) 4-H Building</td>
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<td>Babysitting Clinic 9:00–3:00 PM (MT) Wolak Building</td>
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<td>9. Aerospace Day Camp 11:30–4:00 PM (CT) Bird City, KS</td>
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<td>Cloverbuds 10:00 AM 4-H Building</td>
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<td>23. Photography Clinic 10:00–4:00 PM (CT)</td>
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<td>Country Clovers 7:00 PM 4-H Building</td>
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<td>Outdoor Survival Skills 9:00–3:00 PM (CT) Cheyenne County</td>
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<td>28. Farm to Fork 9:00–3:30 PM (CT) Rexford, Colby, &amp; back to Goodland</td>
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**Discovery Days June 1-4**
**Dates to Remember**

**June**
1. Little Camp on the Prairie—Goodland
2. Choose Health SNAP Ed Camp
3. Babysitting Clinic—Goodland
4. Fishing Clinic—Bellamy’s Pond
5. Choose Health SNAP Ed Camp
6. Aerospace Day Camp—Bird City
7. Choose Health SNAP Ed Camp
8. Photography Camp—St Francis
9. Choose Health SNAP Ed Camp
10. Outdoor Survival Skills Camp—St Francis
11. Farm To Fork—Goodland
12. Choose Health SNAP Ed Camp

**July**
4. Extension Office closed
5. Choose Health SNAP Ed Camp
6. Fair Entries Due
7. Livestock Learning Day—St Francis
8. Fair Clean-up
9. County Fair Horse Show
10. Wallace County Fair

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**Choose Health:**

**Food, Fun, and Fitness**

Presented by Karen Jones & K-State SNAP Ed
1:00-2:30 pm @ the CAB Building

**When:** June 2
June 9
June 16
June 23
June 30
July 7

**Learn:** Cooking
Games
Nutrition
Recipes
Newsletters

Call Extension Office to sign up 785-852-4285

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**2022 Wallace Co Fair**
July 25-30, 2022
“4-H Empowers You”

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