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With a lot of moisture and warm weather, the flies are coming on fast!

Horn flies are small in size and are usually found on the backs, sides and poll area of cattle. During a warm summer afternoon, they can be found on the belly region of cattle. Horn flies, both male and females flies, acquire more than 30 blood meals per day After mating the female fly will leave the animal to deposit eggs in fresh cattle manure. Eggs hatch within one week, and larvae feed and mature in the manure, pupating in the soil beneath the manure pat. Newly emerged horn flies can travel several miles searching for a host. The entire life cycle can be completed in 10 to 20 days depending upon the weather.

Economic losses associated with horn flies are estimated at more than \$1 billion dollars annually in the United States. Horn fly feeding causes irritation, blood loss, decreased grazing efficacy, reduced weight gains, and diminished milk production in mother cows. Additionally, horn flies have been implicated in the spread of summer mastitis.

Studies conducted in the U.S. and Canada have shown that horn flies can cause weight gain loss in cattle, and calf weaning weights can be negatively impacted from 4 – 15 percent. Studies conducted in Nebraska have established calf weaning weights were 10-20 pounds higher when horn flies were controlled on mother cows. The economic injury level (EIL) for horn flies is 200 flies per animal. Yearling cattle can also be affected by the horn fly; other studies have shown yearling weights can be reduced by as much as 18 percent.

There are many insecticide control methods available to manage horn fly numbers; backrubbers, dust bags, insecticidal ear tags and strips, pour-on, oral larvicides, low-pressure sprayers, mist blower sprayers, and the Vet Gun™.

Backrubbers and dust bags are an effective way to reduce horn fly numbers if cattle are forced to use them.

Insecticide ear tags and strips are a convenient method of horn fly control. However, many horns fly populations in Nebraska exhibit a degree resistance to the pyrethroid class of insecticides. The recommended management practice to maintain horn fly control is to rotate insecticide classes.

Animal sprays and pour-on products will provide 7-21 days of control and will need to be re-applied throughout the fly season.

Oral larvicides prevent fly larvae from developing into adults. An important factor when using an oral larvicide is insuring steady consumption. An additional complicating issue using an oral larvicide is horn fly migration from neighboring untreated herds which can mask the effectiveness of an oral larvicide.

The **Vet Gun™** applies an individual capsule of insecticide to an animal and can provide control between 21 and 35 days.

Face Flies Face fly adults closely resemble house flies except they are slightly larger and darker than the house fly. The face fly is a non-biting fly that feeds on animal secretions, nectar and dung liquids.

Face flies are present throughout the summer but populations usually peak in late July and August. Face flies are most numerous along waterways, areas with abundant rainfall, canyon

floors with trees and shaded vegetation, and on irrigated pastures. Female face fly feeding causes damage to eye tissues, increases susceptibility to eye pathogens, and vector *Moraxella bovis*, the causal agent of pinkeye or infectious bovine keratoconjunctivitis. Pinkeye is a highly contagious inflammation of the cornea and conjunctiva of cattle. If coupled with the infectious bovine rhinotracheitis (IBR) virus, *M. bovis* can cause a much more severe inflammatory condition. Controlling face flies is essential in reducing most pinkeye problems.

Achieving adequate face fly control can be difficult because of their habit of feeding around the face and the significant time they spend off the animal. Control is maximized when the cattle receive daily insecticide applications by either dust bags, oilers, sprays, or an insecticide impregnated ear tag/strip. Ear tags/strips should be applied at the label recommended rate. Both cows and calves must be treated if control is to be achieved.

Pinkeye vaccines are available and should be considered if face flies and pinkeye have been a recurring problem. Currently, commercial and autogenous pinkeye vaccines are available; please check with your local veterinarian about the use of these products in your area.

Stable flies are serious pests of feedlots and dairies and of pasture cattle. The stable fly is a blood feeder, mainly feeding on the front legs of cattle, staying on the animal long enough to complete a blood meal. Their bites are very painful; cattle will often react by stomping their legs, bunching at pasture corners, or stand in water to avoid being bitten.

The female stable fly deposits eggs in spoiled or fermenting organic matter mixed with animal manure, soil, and moisture. The most common developing sites are in feedlots or dairy lots, usually around feed bunks, along the edges of feeding aprons, under fences, and along with stacks of hay, alfalfa, and straw. Grass clippings and poorly managed compost piles also may be stable fly developing sites. Winter hay feeding sites where hay rings are used can often be a source for larval development through the summer if the proper moisture is present.

Stable flies cause similar weight gain losses to both pasture and confinement cattle. University of Nebraska research recorded a reduction in average daily gain of 0.44 lbs. per head with animals which received no insecticide treatment compared to animals which received a treatment. The economic threshold of 5 flies per leg is often exceeded in Kansas pastures. The only adult management option available for the control of stable flies on range cattle is the use of animal sprays. Sprays can be applied using a low-pressure sprayer or can be applied with a mist blower sprayer. Weekly applications of these products will be required to achieve a reduction in fly numbers.

Sanitation or clean-up of wasted feed at winter feeding sites may reduce localized fly development. If sanitation is not possible these sites may be treated with a larvicide (Neporex®). But, the application of either procedure may not totally reduce the economic impact of stable fly feeding.

David G. Hallauer
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Squash Bugs

No gardener has much tolerance for them: squash bugs. You know the ones. Grey. Hard, shield-shaped back. They're the ones that feed on your squash and pumpkin plants, resulting in unhealthy plants and loss of production.

By the time you recognize the presence of the adults, they are almost impossible to control. That means it's time to scout.

While the recent confirmation of the presence of first generation eggs and nymphs may not mean much now, the second generation they create is often the one that wreaks havoc on the squash family plants in your garden. Identification and control are key.

The eggs are brick-red in color. The nymph stage will be a small green insect with black legs. Both will be found on the *back* side of the leaves, so look closely to find them.

Implementing a control program now can be a huge deterrent to bigger problems later. Insecticides must come in direct contact with the insect to be effective, meaning you must spray/dust the underside of the leaves. Products like permethrin, malathion, and methoxychlor provide control if a direct application is made to young, soft-bodied squash bugs.

Want more information about squash bugs and their control? Check out Squash Bugs from the KSU Home and Horticulture Pest series, available from any of our three District Offices or online at <https://www.bookstore.ksre.ksu.edu/pubs/MF3308.pdf> . A list of common homeowner products is also available upon request.

Plant Nutrient Analysis for Corn

With a year like this, it's not uncommon to see uneven corn plants within the stand. Some may simply be shorter. Others may be exhibiting shortened internodes or discoloration. The causes are as numerous as the symptoms: too much water, too little water, compaction, or even nutrient deficiencies.

From a nutrient deficiency standpoint, we often talk about the value of soil tests. Another excellent in-season tool you might want to consider – either for diagnostic purposes or to monitor nutrient levels - is plant analysis.

When used for diagnostic purposes, collect comparison samples from both the good and bad areas. Soil samples may be helpful as well, to help define the root of the problem more accurately. For plants less than 12 inches tall, submit the entire plant after it's cut off at ground level. From 12 inches to reproductive stages, collect the top, fully developed (leaf with a collar) leaf. After reproduction, collect the ear leaf (the one below the uppermost developing ear).

Nutrient monitoring in-season can be an excellent way to monitor the crop as well as help solve diagnostic problems. To learn more about what you should test for and what to expect from the subsequent report, check out a recent article from KSU Nutrient Management Specialist Dr. Dorivar Ruiz Diaz available as part of the weekly KSU Agronomy eUpdates available online at https://webapp.agron.ksu.edu/agr_social/article/plant-analysis-for-testing-nutrient-levels-in-corn-341-1 or by e-mailing me at dhallaue@ksu.edu.

Cindy Williams
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Food, Nutrition, Health, and Safety

Helping Youth with Financial Literacy

Tip: Help youth budget while the stakes are low. Why can a single cafeteria worker leave over a million dollars for college scholarships, while a pro athlete who makes millions in a year go bankrupt? The ability to budget is the key. There are people who watch their money disappear while others tell their money where to go.

As soon as children start valuing money, it is time to give some financial responsibility to a child. If you are raising a young child, you can pay them in dimes for allowance. Learning to count by tens is pretty simple to pick up on. If you have a tithing household, it is easier for them to put a dime away for charity, than keep track of the paper/computer. Instead of one piggy bank, create different containers ---special toy, buying gifts, buying a treat at the store, a new bike—where the child puts money into each container. The other key is to make sure the child works for the money that is not a gift for a special occasion.

As a child enters upper elementary age, still pay them in money that can touch. Again, help them set mini-goals up to 6 months out, and tell their money where to go. At this time, can start to move money between the budget categories, however, ask the child to ‘sleep on it’ to prevent impulse buying. One other step to add at this age is to write ‘goals’ of how much money they want in each container or category.

As a youth enters middle school, they can handle a savings account, and keep track of what is coming in and going out. At this point, they can start categories for goals that may be a year or two out. Try to keep withdraws and deposits to once a month. The young person can set up a budget for the month, and withdraw that amount of money. Then keep a handwritten record of how their money is being spent that month.

Many high school students are given a debit or credit card to make life easier on the parents. Consider sitting down and budgeting once a month with your teenager. Start with expenses that are truly their own. An example would be a cell phone only they use. You can give your teen \$100/month on paper. Have them start by deducting the \$10 for their cell phone, school lunches, etc.... Also, have them turn into you what they are spending on your debit/credit card. Yes, this is a lot of work now, but will pay dividends when your child is living on their own and not asking you to bail them out of financial hardship. The key tips are to help every young person learn to earn, budget, track spending, and set financial goals.

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Nancy C. Nelson
Meadowlark Extension District
Family Life

No news from Nancy today.