



## FIELD&FEEDLOT a monthly agriculture publication for Northwest Iowa

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### Online References

#### Ag Decision Maker

[www.extension.iastate.edu/agdm/](http://www.extension.iastate.edu/agdm/)

#### Iowa Beef Center

[www.iowabeefcenter.org](http://www.iowabeefcenter.org)

#### Manure Management Action Group

[www.agronext.iastate.edu](http://www.agronext.iastate.edu)

#### Iowa Pork Industry Center

[www.ipic.iastate.edu/](http://www.ipic.iastate.edu/)

#### ISU Extension Dairy Team

[www.extension.iastate.edu/dairyteam](http://www.extension.iastate.edu/dairyteam)

#### Locate a County Office

<https://www.extension.iastate.edu/countyservices/>

### Numbers to Know

AnswerLine 800-262-3804

Beginning Farmer Center 877-BFC-1999

Iowa 2-1-1 211

Iowa Concern 800-447-1985

Iowa Healthy Families 800-369-2229

Teen Line 800-443-8336

## Scouting for Nutrient Deficiencies in Corn

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Throughout the spring and summer months farmers and agronomists spend many hours with boots on the ground scouting corn fields. We know that it is important to keep an eye out for pests like insects, diseases, and weeds, but scouters should also be watching for nutrient deficiencies. Five nutrients that are commonly deficient in Iowa corn fields are Nitrogen (N), Phosphorus (P), Potassium (K), Sulfur (S), and Zinc (Zn).

**Nitrogen (N)** deficiency causes pale, yellowish-green corn plants with spindly stalks. Because nitrogen is a mobile nutrient in the plant, symptoms begin on the older, lower leaves and progress up the plant if the deficiency persists. Symptoms appear on leaves as a v-shaped yellowing, starting at the tip and progressing down the midrib toward the leaf base.

**Phosphorus (P)** deficiency is usually visible on young corn plants. It readily mobilizes and translocates in the plant. Plants are dark green with reddish-purplish leaf tips and margins on older leaves. Newly emerging leaves will not show the coloration. Phosphorus-deficient plants are smaller and grow more slowly than do plants with adequate phosphorus. Deficiency symptoms nearly always disappear when plants grow to three feet or taller.

**Potassium (K)** deficiency is first seen as a yellowing and necrosis of the corn leaf margins, beginning on the lower leaves. Symptoms usually don't appear for some time after planting (about 4 to 6 weeks, around the V6 growth stage). If the deficiency persists, symptoms progress up the plant because potassium is mobile in the plant and translocates from old to young leaves. When potassium deficiency is severe, older leaves turn yellow with tissue necrosis along the margins, but the upper new leaves may remain green.

**Sulfur (S)** deficiency shows on small corn plants as a general yellowing of the foliage, similar to nitrogen deficiency. Yellowing of the younger upper leaves is more pronounced with sulfur deficiency than with nitrogen deficiency because sulfur is not easily translocated in the plant. Stunting of plants and delayed maturity are symptoms. Interveinal chlorosis of the youngest leaves may occur.

**Zinc (Zn)** deficiency in corn causes interveinal, light striping or a whitish band beginning at the base of the leaf and extending towards the tip. The margins of the leaf, the midrib area, and the leaf tip usually remain green. Plants are stunted because internodes are shortened. Zinc is relatively immobile in the plant. Severe zinc deficiency may result in new leaves that are nearly white, an effect termed "white bud." Plants frequently outgrow zinc deficiency unless it is severe.

*Descriptions used for this article come directly from a field reference written by John Sawyer titled "Nutrient Deficiencies and Application Injuries in Field Crops -- Integrated Pest Management," IPM-42. Visit <https://store.extension.iastate.edu/product/2418> and download a free copy or order the printed publication.*

## Fly Control Strategies

*Fred Hall, Dairy Specialist*

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The May 1-29 Moo University dairy webinar focused on using data to make decisions for fly management around your dairy animals. Dr. Rebecca Trout Fryxell, Entomologist from the University of Tennessee, presented the program.

Her first take-home message was to start fly control when you see flies on your animals. It's not always a calendar thing.

While horn flies and face flies are most commonly found on cattle in pastures, stable flies and house flies are more commonly found on cattle at the dairy. House flies are a nuisance for workers and cattle, often indicating a general sanitation problem. Stable flies, deer flies and horse flies, feed on blood from the back and legs, with stable flies having a long, bayonet-like proboscis that causes a painful sting.

Production losses are the first concern; but remember, flies can spread diseases such as pinkeye and mastitis. Horn flies are most commonly found on the backs of animals but will also attack the teats, leading to the development of mastitis, especially on heifers. Georgia researchers have identified a greater prevalence of mastitis caused by *Staph. aureus* in dairy heifers that had teat ends covered in scabs caused by horn flies and the greatest reductions in mastitis among heifers raised with a good fly control program.

Sanitation is the key to any successful fly control program since it removes fly breeding sites. Without proper sanitation, chemical control treatments will be of limited success. Manure should be removed from barns, loafing sheds and especially calf pens at least twice per week during the fly breeding season. In Iowa, the fly season can start in May and can run into September.

Area fly sprays should be applied to fly resting areas in barns and loafing sheds to control adult flies. Insecticides applied as space sprays, mists or fogs may be used to provide rapid knockdown of adult flies but have no residual activity and will only control flies present at the time of application. Fly baits also are useful supplements to sprays and sanitation. Feed additives will aid in preventing fly breeding (primarily house flies) in the manure from animals being fed the larvicide, but feed additives should not be relied upon for total fly control.

Larvicides can be applied directly to maggot-infested manure as a means of temporarily reducing fly numbers when sanitation and manure management cannot be used. Rabon 50WP or Ravap EC can be used according to label instructions. Treat only "hot spots" containing large numbers of maggots if possible. Do not spray manure where runoff to soil or water can occur. Do not spray animals with these concentrations.

Fly traps can capture large numbers of house flies but generally do not reduce their numbers significantly. Ultraviolet light traps, bottle traps, and fly sticky strips can be useful, particularly in the milk room where pesticide applications are limited and fly numbers are low. Again, the solution to severe problems lies in finding and treating or eliminating breeding sites.

Insecticides for animal sprays should be applied after milking according to label instruction with special care to not contaminate feed, water, or equipment.

The next take-home message is to monitor populations, recognizing population changes can identify success or failure of a strategy. Tacking index cards up in strategic areas of the barn and noting the "fly specs" is an easy way to note changes and is easy to track at a glance.

In closing, here are four steps to a successful fly control program:

1. Keep manure and spoiled feed collected and managed.
2. Monitor changes in fly populations.
3. Find where they are breeding, and maggots are visible.
4. Implement chemical treatments as needed.

Fly control requires a plan. The costs vary with each facility often reaching to \$3 per cow per month. Infestations can be evaluated with speck cards, fly counts and employee comments about kicking cows in parlor or free stalls. Most operators will know just by observing the facilities and milk production.

A resource that the presenter suggests is the VetPesstX at <https://www.veterinaryentomology.org/vetpestx>. It provides an updated list of licensed pesticides for control of insect pests. You pick your state, type of animal, type of pest and what type of chemical control you want to use, and it provides the list. I selected Iowa, dairy heifers and all flies and it provided a list of 22 products.

A publication for current insecticides for dairy cattle is available at [https://entomology.ca.uky.edu/files/recs\\_0/ent12-dairy.pdf](https://entomology.ca.uky.edu/files/recs_0/ent12-dairy.pdf).

## Egg Production and Prices

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The average retail price of eggs reached a record high of \$4.25/dozen in December 2022, which was a 138 percent increase from December 2021. Overall, the price of eggs has increased significantly more than most other food prices.

Causes of this inflation include:

- Supply-chain disruptions, much related to the pandemic;
- Recent outbreaks of the highly pathogenic avian flu (HPAI) and associated bird loss; and
- Variable cost increases, notably from feed and natural gas.

(Sources: <https://www.nerdwallet.com/article/finance/why-are-eggs-so-expensive.com>; <https://www.choicesmagazine.org>)

But did you know that Iowa was the largest producer of eggs in the U.S. in 2022 at 16.4 billion eggs and a total economic impact of \$6.5 Billion? Iowa House District #1 was 45 percent of the state's total economic impact. The state of Iowa was nearly twice the total economic impact of second-place Ohio.

Worldwide, the leading egg-producing country is China (586 Billion eggs), while India (122 Billion) and Indonesia (115 Billion) are slightly ahead of U.S. production (111 Billion) in CY 2021.

(Sources: <https://unitedegg.com/facts-stats/>; <https://www.eggsfeedamerica.org/>; <https://www.iadg.com/iowa-advantages/value-added-agriculture--poultry/#>; <https://worldpopulationreview.com/country-rankings/egg-consumption-by-country>)

If you have questions about or need help with this or a related topic, please feel free to contact me (Gary D. Wright, Farm Management Specialist, 712-223-1574, <https://www.extension.iastate.edu/ag/people/gary-wright>).

## Becoming a Hero for Pollinators: Your Role Matters

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In a world where the delicate balance of nature is increasingly threatened, each one of us has the power to be a hero. We often think of heroes as those with superhuman abilities, but sometimes, the simplest actions can have a profound impact. By establishing and recording your pollinator habitat in HabiTally, you can contribute to the well-being of our planet and become a champion for pollinators.

One such pollinator is the monarch butterfly. Monarch butterflies, with remarkable migration patterns, epitomize the importance of pollinator habitats. These habitats serve as critical refueling stations for these iconic butterflies during their incredible journey, which spans thousands of miles. Sadly, the population of monarch butterflies has been in decline due to habitat loss and the scarcity of milkweed plants, which serve as their sole source of food and breeding grounds. By creating pollinator habitats that include milkweed and nectar-rich flowers next to crop fields or in our backyards, we can provide essential resources for monarch butterflies at every life cycle stage. These habitats not only offer them a haven for feeding and resting but also contribute to the preservation of this awe-inspiring species.

[HabiTally](https://monarch.ent.iastate.edu/habitally) (<https://monarch.ent.iastate.edu/habitally>) is an innovative platform that empowers individuals to document their pollinator habitats. By recording your efforts, you contribute valuable data that helps scientists, conservationists, and policymakers understand the state of pollinators and develop effective conservation strategies. HabiTally provides a user-friendly interface that allows you to enter information about your habitat, such as plant species, location, and size. This collective data enables researchers to identify trends, assess the impact of habitat restoration efforts, and make informed decisions to protect pollinators.

By participating in HabiTally, you become a hero for pollinators. Your recorded habitats serve as an inspiration for others to follow suit, creating a ripple effect of positive change. Additionally, your data contributes to the larger goal of preserving and restoring pollinator populations worldwide. As each habitat is documented, a mosaic of interconnected spaces emerges, forming a network that supports the survival and well-being of these crucial creatures. Your involvement can inspire policy changes, educate others about the importance of pollinator habitats, and ultimately create a better future for both nature and humanity. Being a hero isn't about having superpowers; it's about taking small, meaningful actions that collectively make a significant difference. By creating and recording your pollinator habitat in HabiTally, you join a global movement of individuals dedicated to protecting and conserving pollinators. Together, we can secure the future of our planet. So let's embrace the power within us and take action today. Start your pollinator habitat journey by visiting [lowa Monarch Conservation Consortium's Habitat How-To webpage](https://monarch.ent.iastate.edu/habitat-how) (<https://monarch.ent.iastate.edu/habitat-how>) and be the hero our pollinators need.

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