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Cold Injury to Corn

The 10:00 A.M. two-inch soil temperature at the Corning Kansas Mesonet Station on March fifth was 50 degrees – warm enough to plant corn, right? Twenty-four hours later – it was 39 degrees. April will be more stable, at least to a degree, but even it will have its swings, and those swings can often cause concern for corn growers.

Cold injury to corn can come in multiple forms. If temperatures are hanging around the 50-degree mark for multiple days after planting, germination will be delayed and emergence of young seedlings slowed. If there was the potential for plenty of plants out there to begin with (high populations) and emergence is still fairly uniform (by date and within the row), we'll likely go on like nothing ever happened. If not, losses due to uneven stands may occur.

Another form of injury is what's known as imbibitional chilling. This occurs during the seed's initial uptake of water (first 24-48 hours) after planting. Moist soils cause the seed to rehydrate and germination to begin. As rehydration occurs, internal cell membrane structure is damaged. If the seed/soils are warm, the membrane damage is quickly repaired by natural seed process and nothing is ever noticed. Cold seed, however, has less elastic membranes. Reduced elasticity equals increased membrane injury. In combination with slowed – or even stopped – damage repair mechanisms, cell contents begin to leak and death of the seed can occur.

Predicting damage is inexact at best. Most literature would suggest soil temperatures below 50 degrees F are the key. A second factor is the timing of the cold soils in relation to the water uptake phase, with injury likely to occur during the first 24 to 48 hours, even though we're not sure whether it only takes a few hours of exposure to critical temperatures or if lengthier exposure windows are required.

With any luck, temperatures will increase and continue to gradually do so, allowing even the earliest planted corn to pop out of the ground without injury. If we get a mid-April like last year, however, consider the possibility for chilling injury and plan accordingly. One resource to bookmark for future reference is the Kansas Mesonet soil temperature page: <https://mesonet.k-state.edu/agriculture/soiltemp/>. Current as well as historical soil temperature data can help you see whether an upward trend is conducive to planting - or if a little wait is in order.

Bolting and Buttoning in Cole Crops

One of the complaints growers of broccoli, cabbage and cauliflower sometimes express is the lack of good production – or production at all. If not grown properly, these cole crops certainly express a tendency to bolt (go to seed) or button (produce an extremely small head).

The tendency for them to do so comes in many cases because they don't maintain active growth through the production cycle (including transplants from seed). Any slowing of growth (under-fertilization, outgrowing a container, etc..) can result in issues with careful consideration necessary to address needs of plants grown for transplanting *before* there's an issue.

When *selecting* plants for transplanting, choose small, stocky, dark green plants. Apply fertilizer at transplanting with a starter solution and continue to apply every two to three weeks until harvest.

Both buttoning and bolting are irreversible. Once a seed stalk starts for form, nothing can be done to force the plant to produce a normal crop.

Cindy Williams
Meadowlark Extension District
Food, Nutrition, Health, and Safety

Celebrate Healthy Living by Joining Walk Kansas!

Spring is showing signs all over that it's time to grab your walking shoes and join us for Walk Kansas 2022. Improve your personal fitness with the support of a team of six friends, neighbors, family members or co-workers and "walk" your way across Kansas.

Research has shown that what is good for your heart is also good for your brain. Through Walk Kansas this year, this program will highlight ways that physical activity and healthy lifestyle habits improve our physical and mental health. This year the MIND diet will be introduced through the weekly newsletters, so when you sign up for a team, this will also be a part of the program.

Walk Kansas will be held from March 27 – May 21, 2022. Registration is due by March 26th and close on April 3. Registration is \$10 per team members and can be done online at WalkKansas.org or by contacting your Meadowlark Extension District Offices, located at Oskaloosa-(785-863-2212); Holton-(785-364-4125); or Seneca-(785-336-2184). Our options for payment are cash or check only and this will be asked for when registering.

This 8 -week program will ask you to select a challenge when registering. These challenges include: 8 Wonders—435 miles and each person=2.5 hours per week; or Cross Country which is 764 miles and each person=4 hours per week. Another challenge would be Little Balkans to Nicodemus which is 1200 miles and each person =6 hours per week. And last is the Solo Challenge and each person = 2.5 hours per week. Please select the challenge that is best for you and your team members. Hours will be logged on the WalkKansas.org website.

Walk Kansas t-shirts are also available for purchase on the website. The process of ordering t-shirts and other apparel has changed. After you complete online registration. Log into your portal and click on the word "shop" at the top of the page. This will take you to our apparel vendor site, www.shopwalkkansas.com (<https://www.shopwalkkansas.com>), and you can place your order. Unlike previous years, you will be required to pay shipping and the items will be shipped directly to you. (You can save on shipping by ordering all of your team's items at once and have them shipped to one location.) Samples of the t-shirts are in each of district offices.

When you order from the Walk Kansas Web Store, if ordered by April 1, orders delivered the week of April 11. If ordered by April 29, orders will be delivered week of May 9th.

If you have further questions, please contact your district Extension Office, website or www.walkkansas.org for details. And, make sure you like Kansas State University Walk Kansas on Facebook.

While Walk Kansas is sometimes viewed as a (friendly) competition, reaching the goal your team selected is the most important. Be realistic, keep it fun and don't worry about what others are doing or reporting. Be honest, be supportive to others and have a great Walk Kansas!!