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Ray-Carroll Cooperative News

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Insurance measures authorized to support farmers during COVID-19

USDA's Risk Management Agency (RMA) is authorizing self-certification on replant inspections and waiving witness signatures in certain situations as part of a broader suite of flexibilities to support producers during the coronavirus pandemic.

If you think you have a replant claim, it's important that you reach out to your Ray-Carroll Insurance agent to open a claim and see if these new suppoorts could benefit you.

These supports will allow your Approved Insurance Provider (AIP) to use self-certification replant inspections for certain crops with 100 gross acres (before considering share) per unit in lieu of 50 acres, and waive the witness signature requirement for approval of Assignment of Indemnity through July 15, 2020, for applicable crop years.

Many state and local governments have issued "stay-at-home" orders in response to the COVID-19 pandemic, which may prevent loss adjusters from completing on-the-farm replant inspections and obtaining associated signatures required for replant certification purposes. In the absence of "stay-at-home" orders, loss adjusters and policyholders may also be prevented from meeting in person due to concerns of spreading COVID-19.

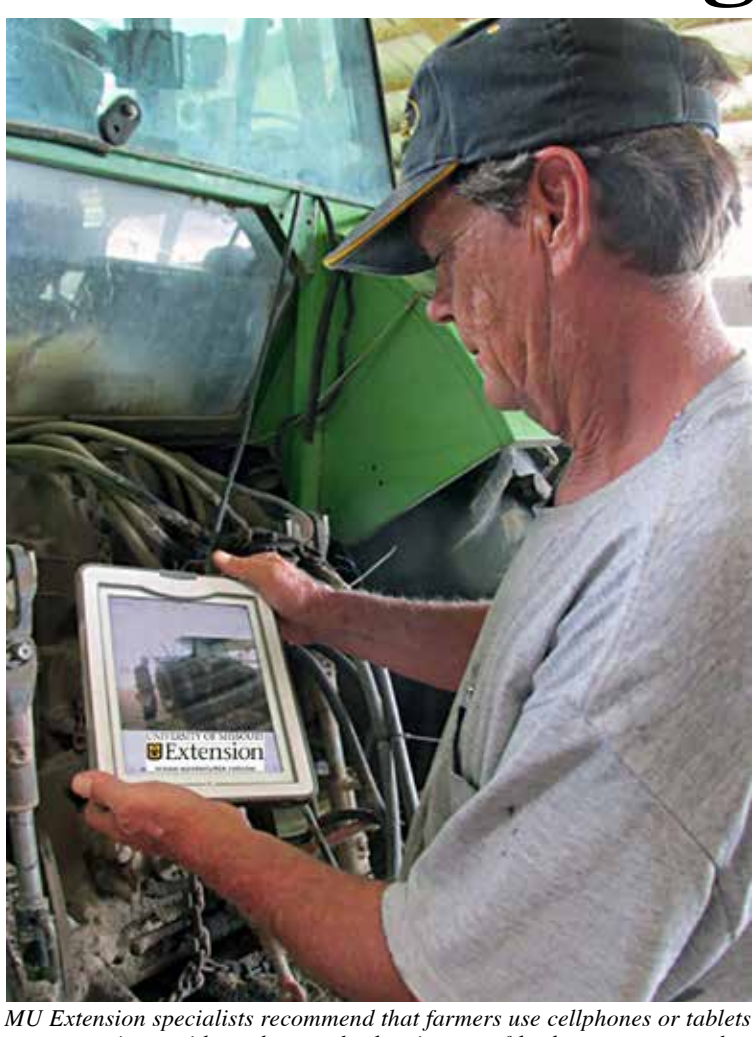
Replant Self-Certification

For the 2020 crop year only, AIPs are authorized to allow self-certification replant inspections for up to 100 gross acres (before considering share) per unit in lieu of 50 acres.

See "Insurance support," cont. on pg. 6

Ray-Carroll remains open, acts to mitigate farmer risks during COVID-19

While the worst of the COVID-19 outbreak is currently centered in larger metropolitan areas, your Ray-Carroll cooperative understands the unique safety risks faced by farmers and has taken steps to mitigate the spread of the virus.



MU Extension specialists recommend that farmers use cellphones or tablets to communicate with workers and take pictures of broken parts to send to parts dealers. Photo by Linda Geist.

The predicted peak of the COVID-19 outbreak likely will hit as spring planting season shifts into high gear. Physical distancing may become more difficult as farmers receive seed and chemical deliveries. The National Institutes of Health reports that the virus can survive up to three days on plastic and stainless steel surfaces and up to 24 hours on paper surfaces.

All of your Ray-Carroll locations are currently open and operating under normal business hours. However, you might have already noticed by now that your co-op has made some adjustments to the way we work.

First of all, in an effort to keep our customers, employees, vendors and all of our families and communities as safe as possible, we changed some of the ways we interact with you.

- We have asked all customers to please limit their visits to our facilities to activities that truly require face-to-face contact — such as picking up an order of chemical, seed, feed, petroleum, etc.
- We also are asking that you call ahead to place these orders and let us know when you're on your way so our staff can meet you when you arrive and get you loaded as quickly and efficiently as possible.
- We are asking that all grain transactions be handled via telephone, text or website for the time being. We would prefer that you use regular mail to send payments back to us, as well as signed contracts, etc.

Secondly, we have asked some of our employees to stay home until their presence is required by our business cycle needs.

- This response began before our spring busy season began in earnest. During these slower times, some applicators and tender truck drivers, for instance, stayed home until they had field conditions appropriate for application. At that point they've been asked to report to work in the safest manner possible, respecting social distancing and with a renewed focus on sanitation and cleanliness.
- Some of our Richmond office staff have been able to work remotely, and that has allowed a new level of staff separation while still facilitating their daily work for our co-op member-owners.

"Our effectiveness at serving our patrons should remain unaffected by these changes," General Manager Beau Hepler said. "We have simply looked over our business and sought out ways to distance person-to-person interactions and ensure a clean, safe workplace. When needed, we're still all-hands-on-deck to serve you during the busy spring application and planting season."

See "COVID-19 response, cont. on pg. 2

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"COVID-19 response, cont. from front cover

Ray-Carroll CFO Dave Vaughan said the entire organization feels very fortunate to be operating in such a vital industry in our nation.

"Being an essential industry, we have not been asked by our government to cease operations," Vaughan said. "These temporary changes we've made were voluntary and made to safeguard our greatest assets – our people and those we interact with – while also safeguarding your business. We need to have healthy employees to continue to serve your needs."

Vaughan encouraged anyone with questions about the changes they've seen to call their local manager and visit with them.

Here are some additional tips to help prevent the spread of COVID-19 from Rusty Lee, an agronomy field specialist from the University of Missouri Extension.

Limit traffic in and out of the farm.

Ask to be there when supply delivery trucks arrive. Maintain a 6-foot distance from the delivery person.

Only you use your farm equipment.

On many farms, delivery people use the farmer's tractors or forklifts to unload supplies. To reduce risk of virus spread, no one other than the farmer should operate your equipment.

Sanitize equipment.

Keep sanitizing supplies in commonly used areas such as tractor cabs and sheds. Wipe down doorknobs, steering wheels, radio knobs, grab handles, fuel tank covers and other surfaces people might touch.

Use technology to communicate.

Rather than face-to-face meetings, use your phone, email and tablet to communicate. This includes texting work plans to employees instead of holding morning meetings in the shed or at the kitchen table. It also means using a phone or tablet to take a picture of a broken part to send to the parts dealer. Call ahead to make sure parts are in stock and ask the dealer to place the part outside the door.

Maintain social distancing – even among extended family.

Farms also face special risks because up to three generations of one family may still actively work on the farm. Mealtimes and child care might include grandparents. Even within families, maintain safe practices such as distancing. Wipe down surfaces frequently and try to minimize contacts. Also, consider how to safely handle "field food" and other meals during planting season

Develop illness plans in writing.

Develop a written contingency plan in case of illness of the farmer, family members or workers. Decide who can fill vital roles and share this plan with those involved. Safety should be a priority for all who enter and leave the farm. Set and follow protocols.

Take care of yourself.

Your farm is important but remember that you are your farm and your family's most important asset. Get plenty of rest, eat and exercise well and slow down when your body tells you it needs to rest.

Ray-Carroll agronomists and staff are still available to answer questions or concerns by phone and email at your the location nearest you.

"We're here to help us all continue our farming operations while staying as safe as possible," Vaughan said. "As always, thanks for your business and we're still here – OPEN FOR BUSINESS – to serve all your farm needs."

Not a year for grain sales home runs

john graverson
grain merchandising

A lot of information has been released over the last month for the grain markets. None of it was particularly friendly to commodity prices. Combine all that info along with the COVID-19 pandemic, and the weak, volatile stock market, and you get a perfect storm for sharply lower grain markets.

Since the end of February, soybean prices are down 25 cents as of this writing, wheat is actually 27 cents higher, but corn, which has been the hardest hit, is 50 cents/bushel lower. Obviously, the shutdown of the U.S. economy has had a huge impact on gasoline usage and the resulting demand destruction for ethanol. Most estimates are that the U.S. will lose about 400 million bushels of corn demand from the cut in ethanol corn demand.

In the recent planted acres estimate released March 31, the U.S. Dept. of Agriculture (USDA) stated that American farmers are preparing to plant a near-record 96.99 million acres of corn, an increase of over 7 million acres from last year. In Missouri, their corn acreage estimate was 3.6 million acres, up 400,000 acres versus last year.

For their soybean acreage estimates, they put the U.S. intentions at 83.5 million acres, an increase of almost 7.5 million acres over last year. Missouri farmer intentions for bean acres are 5.8 million acres, an increase of 700,000 acres compared to last year.

Then on April 9, the USDA issued their latest Supply and Demand forecast for last year's crop and also made projections for the current new crop getting planted this month. On corn, they increased the ending carryout for last year's crop by 200 million bushels, to 2.092 billion bushels left in the U.S. at the end of August 2020. For next year their estimate was a whopping 3.180 billion bushels.

For soybeans their carryout number for the 2019-2020 crop was 480 million bushels, up 55 million from last month's number. And then for the 2020-2021 crop, their ending stocks estimate was 292 million bushels.

So, what can we determine from the above estimates? The most glaring issue is that the corn market is reeling from an oversupply situation that looks only worse out a year from now. Of course, there are many different inputs to get to their estimates, such as final acres, growing season weather, actual yields, export demand, especially from China, and the potential of how the U.S. economy recovers post COVID-19 pandemic, and lastly, how the U.S. ethanol industry recovers. Suffice it to say though that today the outlook is not robust.

Soybeans do look better with a lower carryout expected next year, but we will need to see a steady demand from crush, exports, Chinese demand, and hopefully, somewhat less competition from South America.

Where do we go from here? Corn prices have lost 50 cents in a little more than one month and as we face the start of the planting season, the outlook is one of continued ample supplies for both corn and beans this summer, extending into next year, especially on corn.

We will have to watch the progress in the U.S. of the spring planting season and the summer growing weather. And probably most importantly, how and when does the U.S. recover from the virus pandemic.

This is probably not a year to be trying to hit any home runs on grain sales. Know your breakeven levels and be prepared to lock in some sales above those levels. Stay informed on U.S. conditions and watch to see if we actually do get all the intended acres planted. Use offer contracts to set pricing targets and consider using some of the various pricing contracts that are something other than storing grain and hoping for better prices that offset the costs of storage.

The Importance of Mineral Supplementation

125 years of feeding greatness

FEED GREATNESS™

Prepared by
Jon DeClerck, Ph.D.

Why Minerals are Important

Individuals often remark over the price of a high-quality minera program. But considering that minerals are a precursor to animal performance, it is far more expensive not to have a program at all.

Minerals facilitate nearly every process or reaction occurring in the body, so it is not surprising proper supplementation commonly leads to a 2:1 return on investment via improved conception rates, animal gain and health.

Why Mineral Needs to be Supplemented Year Round

Even the best forages (grass/hay) are deficient in many of the 13 minerals essential to production success. For instance, zinc and copper is deficient in all forages, while phosphorus levels are typically insufficient 10 months out of the year.

Phosphorus is often referred to as the master mineral as it is combined with glucose to make "ATP", which is a fuel source for cells in the body. Meaning phosphorus is required for all cattle to walk, graze, breathe or simply stay alive. Additionally, each species of plant has a different composition of minerals, which changes as the plant matures.

Like humans, cattle have different preferences for certain forages, and each native pasture features numerous different types of grasses/plants, and naturally not all cattle will eat the same distribution. Meaning the only way to guarantee a cow is receiving the appropriate level of minerals is by feeding a high-quality mineral supplement.

Accordingly, research has routinely illustrated cows fed a high-quality mineral program, document a 10% improvement in conception rates, and wean off calves 40 pounds heavier.

The Importance of Mineral Consumption

Minerals are vital to enhancing performance at every level in the production cycle which underscores the need for consistent daily intake. Meaning that simply having a mineral supplement in a feeder isn't enough, cattle must eat the supplement to bolster performance!

Purina offers a full line of proven mineral options, equipped to deliver consistent intake. In fact, Purina has tested the formulated 4-ounce intake of the "Wind and Rain® Storm®" line of loose mineral products at ranches throughout the country, in numerous climates and during various seasons.

Representing over 145,000 cows, these field test show an average daily cow consumption of 4.01 ounces. For producers confronting intake issues, a proven remedy has been the use of mineral tubs.

As the enhanced taste and palatability of the molasses base tub result in consistent cattle consumption. Not to mention, tubs optimize weatherability and reduce product waste.

Choosing a Mineral Program

When choosing a mineral program, don't solely focus on the guaranteed analysis on the product label. In many cases, more is not necessarily better. Minerals are interrelated and frequently compete against one another for absorption.

Take for instance, grass tetany which we know is caused by a lack of magnesium absorption. Even though lush green grasses often have proficient levels of magnesium, its absorption is commonly blocked by elevated concentrations of potassium and calcium. Thus, the proper balance of minerals is more important than the total concentration of any one mineral.

Additionally, not all sources of minerals are digested equally. Oxides are virtually unavailable to the animal, chlorides and sulfates are absorbed better, while hydroxy, organics, and performance minerals are usually the best. To save on cost, many manufactures use oxide formulations, which significantly diminishes animal performance.

Lastly, consider the durability of the product. Coarse textured weatherized products are water-resistant, preventing mineral caking or bricking, and wind loss. For optimal, consistent consumption and weatherability consider a mineral tub.

At Purina Animal Nutrition, we understand that mineral supplementation is vital to animal performance and maximizing profits, correspondingly we offer a full line of research and field tested, balance mineral options to suit your needs.

WHAT'S YOUR PRICE?

Consider current and future crop situations

zach petzoldt
grain originator

If there is anything these markets have shown us this year it is that commodity prices always have the potential to go from bad to worse. As hard as it is to guess the top end of prices, it is equally difficult to know when a bottom has been reached. That is why it is crucial to make a marketing plan for your grain, as it will help determine what price is needed to have a profitable operation and assist with execution when that price is achievable.

The first step in developing a good marketing plan is to figure out what you are likely to raise in the upcoming crop years. This is based on previous yield averages and anticipated average costs for that crop in any given year. Once you have those numbers you can make conservative estimates of both to determine a breakeven price, and from there set a profit goal.

For example, a grower's breakeven price may be that their average corn yield is 175 bushels per acre and the average cost per acre is roughly $650 dollars. The breakeven corn price for this grower would be $3.71. They now know that in an average production year they will be profitable if they sell all their grain above that level and use that price to set targets for different amounts of corn offers working at several levels above that number. If this grower is hoping to market 80% (or 140 bushels per acre) of his corn before it is harvested with 20% of his total expected yield offered at a $25, $50, $75, and $100 profit, then he would have four cash offers working for 35 bushels per acre of his total at $3.86, $4.00, $4.14, and $4.29 a bushel.

After determining profitable prices, the grower can make the most of their plan by simply sticking to it. This includes not altering it too drastically when a rally market begins by moving their targets to higher numbers in hopes of getting a better price. While it's reasonable to adjust targets during a strong rally market, it should be done conservatively. Otherwise, you could miss a previous target while trying for a new one -- and if that is never reached you could possibly have to sell at a lower price.

It is just as important for the grower to stay current on what prices are doing and what their profits would be if they were to take everything they had previously sold and sell their remaining grain at the current level. This will show the total profit as a farm overall.

Knowing this will allow for a better look at the market as a whole, and in a situation where prices are likely to drop and not recover, growers can make a more informed decision when choosing to take what offers may have already been hit and sell, or to reduce their remaining offers so that they can be sold for a profit even if it's less than what they initially wanted.

In summary, it is best to have a well-defined marketing plan with clear goals that are followed, but it is equally important to look at the situation for your current and future crops to know if it is better to take the profit on the table at current prices, rather than continue to hold out for previous goals.

Insurance provision added for land flooded last year

A new special provision is being allowed for 2020 crop year insurance policies for spring-planted crops with a Nov. 30 filing date. The provision states that:

"Land flooded due to a breach in a levee resulting from prior year(s) flooding is Insurable. The applicable rate will be assigned based on conditions of the levee and soils on the latter of the sales closing date or earliest planting date. If, by that date, the levee has not been repaired to prior specifications, or if damaged soil (if any) has not been restored to at least the same crop yield potential as prior to the flood event, the land will be classified as high-risk and will have the highest rate classification in the county. However, if the levee is repaired to prior design specifications, and the soil has at least the same crop yield potential as before the flood, the land will be classified as shown on the current crop year Actuarial Map. If the levee has been temporarily or permanently repaired, but not to prior design specifications, by the latter of the sales closing date or earliest planting date, and the soil has at least the same crop yield potential as before the flood, then RMA may adjust the rate to an amount consistent with the level of flood risk by a written agreement, if applicable."

Contact your Ray-Carroll Insurance agent today for details on how this provision may affect your acres, based on county, RMA certification and more.

Why inoculate soybeans planted to flooded land?

Flooded soil can dramatically affect crop production — both during and following the year of flooding. Long periods of soil saturation and anaerobic conditions decrease the nitrogen-fixing, rhizobial bacteria populations. Rhizobia need oxygen to survive and grow and soil flooding limits the available oxygen.

Silt deposited by a flood may add to the problem by sealing the field and preventing oxygen from entering the soil. Laboratory studies indicate that less than 20 percent of bacteria remain alive and healthy after only one month's storage when deprived of oxygen.

In addition to the reduced rhizobia populations, soil contamination deposited by flooding form new soil layers with unknown quantities of rhizobia. The best offense to maximize your crops yield potential following a flood is to inoculate and restore rhizobia populations.

For more information, contact your local Ray-Carroll service location.

"Insurance support," cont. from front cover

Authorized crops for self-certification of up to 100 acres for replant include: barley and wheat not covered by the Winter Coverage Endorsement (both initially planted winter and spring crops), buckwheat, canola and rapeseed, corn, dry beans, flax (spring-seeded only), grain sorghum, mustard, oats (spring-seeded only), popcorn (including popcorn revenue), peanuts, safflowers, soybeans, sugar beets and sunflower seed.

Assignment of Indemnity

AIPs are also authorized to waive the witness signature requirement for approval of Assignments through July 15, 2020. The insured's and creditor's signature on the Assignment will be required in a pen and ink signature and in the hand of the person whose signature is required or an acceptable electronic (digital) signature in accordance with established Electronic Business Implementation Plan and applicable RMA procedures.

Electronic Notifications Allowed for Required Reports

Producers may send notifications and reports electronically for written agreement issues, acreage and production reporting and upcoming sales closing dates (deadlines to buy crop insurance). Notice of the policyholder's election may be provided over the phone with appropriate documentation of the call or using electronic methods followed by their confirmation of such election in writing (a signed, or e-signed, form) no later than July 15, 2020.

Production Reporting Date Extended

For the 2020 crop year, AIPs may accept production reports through the earlier of the acreage reporting date (ARD) or 30 days after the production reporting date (PRD) for crops insured under the Common Crop Insurance Policy Basic Provisions with a PRD of March 15, 2020, or later. Generally, the PRD for crops insured under the Common Crop Insurance Policy Basic Provisions is the earlier of the ARD or 45 days after the cancellation date.

Additional Time Given and Interest Deferred on Premium Payments, Written Payment Agreements

AIPs are also authorized to provide additional time for policyholders to make payment of premium and administrative fees. Interest accrual on premium payments and administrative fees will be waived to the earliest of an additional 60 days from the scheduled payment due date or the termination date on policies with premium billing dates between March 1, 2020, and April 30, 2020. Agents are also authorized to provide additional time for policyholders to make payment for Written Payment Agreements due between March 1, 2020, and April 30, 2020. Payments may be extended up to 60 days from the scheduled payment due date and considered a timely payment.

Remember, replant claims cannot be paid until acreage repoorts are processed. Failure to notify your insurance company of the claim could mean your replant claim is denied. RMA staff is working with Ray-Carroll Insurance and other customers by phone, mail and electronically to continue supporting crop insurance coverage for producers. Farmers with crop insurance questions or needs should continue to contact their local Ray-Carroll Insurance agents about conducting business remotely (by telephone or email).

Don't replant without authorization from your adjuster or AIP. For the most current updates on available services, visit farmers.gov/coronavirus. To start a claim, contact:

Carrollton, Brunswick, Sumner & Wakenda — David Maasdam (800) 722-4482
Corder — Ryan Minnick or Brynna McCollum (660) 394-8888
Hardin — Kent Newham or Zach Tolson (800) 356-4388
Mayview — Ryan Minnick (800) 248-6010
Norborne — Lacey Warren or Brynna McCollum (800) 248-6010
Richmond — Lacey Warren (800) 248-6010
Slater — Ryan Minnick or David Maasdam (877) 289-2676

Corn growth stages and growing degree units

A corn plant requires a certain number of growing degree units (GDUs) to reach maturity, regardless of the number of calendar days it takes to accumulate.

The relationship of GDU accumulation and corn development, along with utilizing the estimated number of days to reach a certain growth stage, can help predict when important growth stages will occur.

Growth stages can be used to help growers make timely applications of herbicides and fungicides. The following information is on corn growth and development from emergence to R6 growth stage.

Corn growth stage development can vary according to corn maturity. An early maturing product may produce fewer leaves or develop through growth stages faster than a slower-paced late-maturing product. This is important to remember when staging corn in relation to accumulated GDUs.

EMERGENCE AND STAND ESTABLISHMENT (VE TO V9)

As soon as corn seed is planted into the soil, metabolic reactions begin to take place within the seed. With adequate moisture and soil temperatures above 50° F, the radicle will begin to elongate from the corn seed. The emergence of the radicle from the seed is called germination, which may occur from 2 to 3 days after planting or after 65 to 80 GDUs have accumulated. Germination may take several days longer depending on soil moisture, soil temperature, residue on the soil surface, and planting depth of the seed.

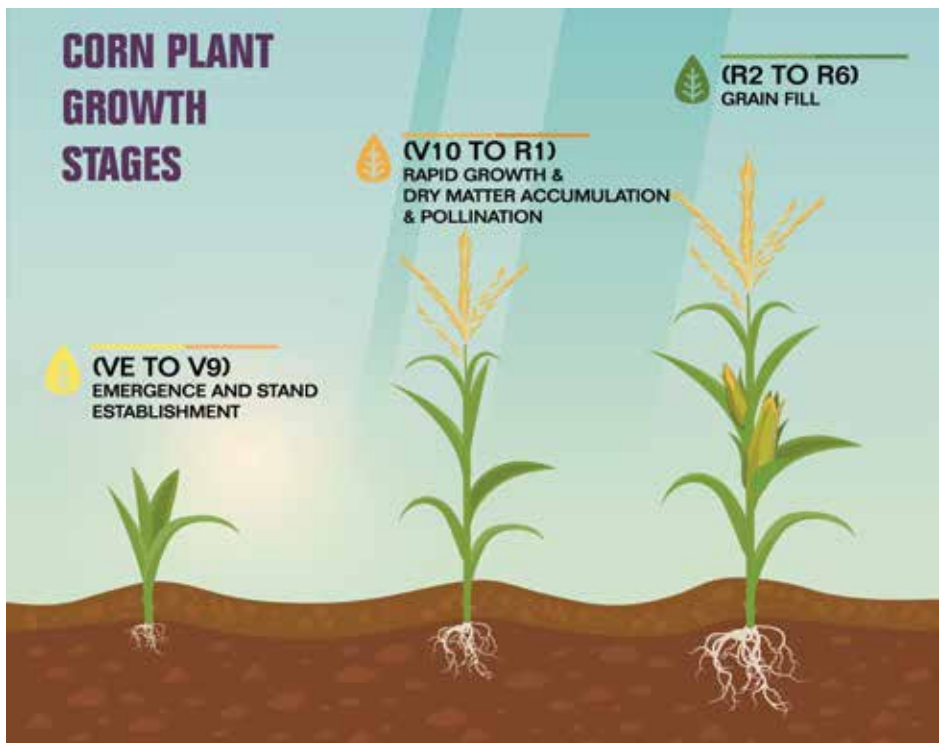
VE Stage. Corn emergence (VE stage) is achieved when the coleoptiles reach and break through the soil surface. Normally corn requires approximately 100 to 120 GDUs to emerge, which under favorable conditions can be 4 to 5 days after planting.1 If cool or dry conditions exist, emergence may be delayed several weeks. At the VE stage, growth is also taking place below the soil surface as the nodal root system begins to grow. At approximately 6 weeks, the nodal root system will replace the work of the lateral seminal roots in supplying the plant with water and nutrients.

Problems may occur prior to emergence. One preemergence problem that can occur is when coleoptiles rupture below the soil surface. This makes it difficult for the seedlings to break through the soil surface, resulting in seedlings that are yellow, twisted, or “leafout65533;? below ground. Reasons for this may include cloddy soil, herbicide injury to the seedling, soil crusting, or extremely cold soil temperatures.

V1 Stage. The V1 stage is reached when the first leaf has fully emerged and the leaf collar is visible. The V1 stage typically occurs 3 to 4 days after emergence. The first leaf to emerge will have a rounded tip, while all leaves that emerge later will have more pointed tips.

V2 Stage. The V2 stage occurs when two leaves have fully emerged with collars visible. The V2 stage occurs typically 7 to 10 days after emergence or around 200 GDUs.2

V3 Stage. The V3 stage marks the end of the seed being the main food source and the beginning of the photosynthetic process. The V3 stage is reached at 10 to 20 days after emergence or at around 350 GDUs.2 At the V3 stage, the plant begins to rely more on the nodal root system as these roots form root hairs and continue to increase in size. The growth of the seminal root system has ceased.



V4-V6 Stage. During these stages the uppermost ear and tassel is initiated and kernel row numbers are determined. The growing point of the corn plant is near the surface. The V6 stage occurs at approximately 475 GDUs.2

V7-V9 Stage. These stages begin the rapid growth phase. If the corn plant is stressed, lower leaves may die. At approximately 610 GDUs, 8 leaves will have formed.2

RAPID GROWTH AND DRY MATTER ACCUMULATION (V10 TO V17)

During the V10 to V17 growth stages, any management practice that helps reduce plant stress and allows for adequate nutrient levels can help maximize yield potential.

V10 Stage. At 740 GDUs, 10 leaves have formed, the corn stalk elongates, and the tassel rapidly grows during this phase.2

V11-V15 Stage. At V12, kernel row determination is almost complete. As the plant nears pollination, soil moisture and nutrient availability become increasingly critical for yield determination.

POLLINATION (V18 TO R1)

Pollination begins around 9 or 10 weeks after corn emergence. Moisture and heat stress during pollination may cause the greatest yield reduction, which can result in barren tips or loss of entire ears.

VT Stage. Tassel stage begins when the last branch of the tassel is visible, but silks have not emerged (Figure 2). This occurs after the accumulation of approximately 1135 GDUs.2 Tassels normally appear 2 to 3 days before silk emergence. Pollen shed typically occurs in the morning or evening.

R1 Stage. The silking stage begins when the silk is visible outside the husk (Figure 3). Pollen falls onto the silks to potentially fertilize the ovules. Each ovule can produce an individual kernel. Moisture stress at this time can cause the desiccation of silks and/or pollen grains, which could reduce seed set.

GRAIN FILL (R2 TO R6)

Grain fill is the last set of stages of the corn growth cycle. The plant now directs nutrients for reproductive growth instead of vegetative growth. While the number of kernels has already been determined in earlier stages, the size of the kernels is set during grain fill stages. Frost or freezing before black layer maturity may prematurely kill a plant, which will slow dry-down, reduce grain quality, and final yield potential.

R2 Stage. The blister stage is approximately 10 to 14 days after silking at 1660 GDUs.2 During this stage the kernel is white and shaped like a blister.

R3 Stage. Milk stage (18 to 22 days after silking), the kernel is yellow with a white milky inner liquid. At this stage dry matter accumulation is very rapid. Silks on the corn ear are brown and dry.

R4 Stage. During the dough stage (24 to 28 days after silking/1925 GDUs) the inner fluid begins to thicken due to starch accumulation. The kernels will have accumulated half of their total dry weight.

R5 Stage. At dent stage (35 to 42 days after silking/2190 to 2450 GDUs) the kernels begin to dry down from the top of the kernel towards the cob. Each kernel will have a dent at the top. If a frost occurs during this stage, the black layer can form prematurely preventing additional dry matter accumulation.

R6 Stage. The kernels continue to gain weight until black layer formation or physiological maturity (55 to 65 days after silking/approximately 2700 GDUs) occurs. The black layer forms where the kernel attaches to the cob. Kernel moisture is at 30 to 35 percent.

SOURCES:

1Abendroth, L.J., Elmore, R.W., Boyer, M.J., and Marlay, S.R. 2011. Corn Growth and Development. PMR 1009. Iowa State University Extension.

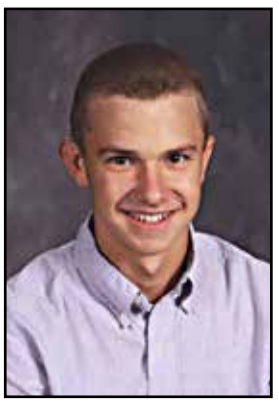
2Neild, R.E. and Newman, J.E. 1990. Growing season characteristics and requirements in the Corn Belt. National Corn Handbook, Purdue University, Cooperative Extension Service, West Lafayette, IN.

Scholarship award-winners announced

The Ray-Carroll Grain Grower's Scholarship Committee reviewed dozens of applications for this year's scholarship awards. The Committee selected 13 young people who plan to attend a college in Missouri in the fall to each receive $1000 scholarships and four more to receive $500 scholarships for a total of $15,000 given out. Including these awards, Ray-Carroll has donated a total of $454,050 in scholarships to 542 students who reside in the Ray-Carroll service area since the program began in 1981.

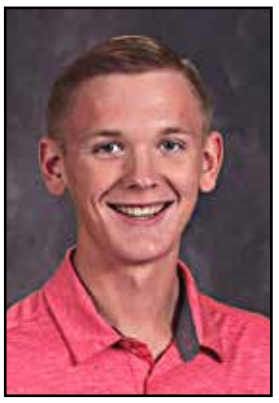
$1000 AWARDS

Mack James Anderson, the son of Mark and Anne Anderson of Dawn, Missouri, will graduate this year from Southwest Livingston R-1 High School. He plans to attend North Central Missouri College and major in agriculture business.

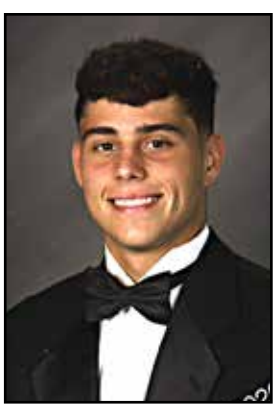


Wade Binder, the son of Travis and Andrea Binder of Salisbury, Missouri, will graduate this year from Salisbury R-IV High School. He plans to attend Northwest Missouri State University and major in beef production management and diesel ag technology.

Proffitt Blackburn, the son of Dan and Kim Blackburn of Higginsville, Missouri, will graduate this year from St. Paul Lutheran High School. He plans to attend the University of Missouri-Columbia and major in engineering.

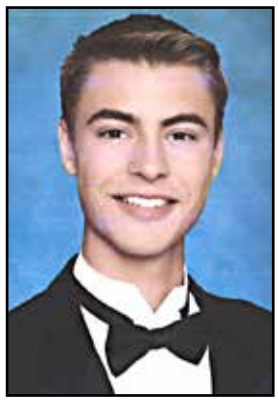


Silas Brown, the son of Aaron and Sabrina Brown of Triplett, Missouri, will graduate this year from Northwestern High School. He plans to attend the University of Missouri-Columbia and major in health sciences.



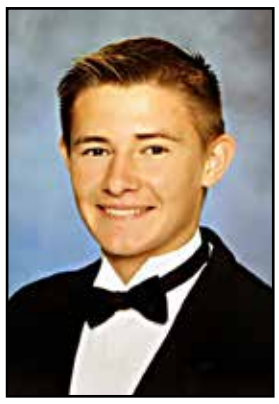
Tanner Kaullen, the son of Sean Kaullen and Jennifer Kaullen of Lexington, Missouri, will graduate this year from Lexington High School. He plans to attend the University of Central Missouri and major in construction management.

Hunter Keithley, the daughter of Chad and Betsy Keithley of Chillicothe, Missouri, will graduate this year from Chillicothe High School. She plans to attend the University of Central Missouri and major in nursing.



Hayden Krumpelman, the son of Michael and Tina Krumpelman of Marceline, Missouri, will graduate this year from Marceline High School. He plans to attend the Missouri University of Science & Technology and major in mechanical engineering.

Chloe Lewellen, the daughter of Rodney and Lori Lewellen of DeWitt, Missouri, will graduate this year from Brunswick High School. She plans to attend Northwest Missouri State University and major in animal science with a minor in agricultural business.



Alex McCauslin, the son of Tony and Livia McCauslin of Marceline, Missouri, will graduate this year from Marceline High School. He plans to attend the University of Missouri-Columbia and major in accounting.

Madison Mellon, the daughter of Rodney and Terri Mellon of Polo, Missouri, will graduate this year from Polo High School. She plans to attend Northwest Missouri State University and major in nursing.

Deven Neidholdt, the son of Daren and Jenny Neidholdt of Keytesville, Missouri, will graduate this year from Keytesville High School. He plans to attend Grand River Technical School and major in automation and electrical technology.

Scott Roth, the son of Curtis and Ali Roth of Blackwater, Missouri, will graduate this year from Pilot Grove High School. He plans to attend State Technical College and major in heavy equipment operations.

Chandler Wheeler, the son of Kent and Stephanie Wheeler of Hardin, Missouri, will graduate this year from Hardin-Central High School. He plans to attend Northwest Missouri State University and major in agricultural business.

$500 AWARDS

Gracie Bachtel, the daughter of Brian Bachtel and the late Daisy Bachtel of Carrollton, Missouri, will graduate this year from Carrollton High School. She plans to attend North Central Missouri College and major in general agricultural.

Jenna Rose Korff, the daughter of Rob and GayLynn Korff of Norborne, Missouri, will graduate this year from Norborne High School. She plans to attend the University Missouri-Columbia and major in health science/occupational therapy.

Grant Matthews, the son of Travis and Melinda Matthews of Carrollton, Missouri, will graduate this year from Norborne High School. He plans to attend Northwest Missouri State University and major in agriculture.

Wesley Miller, the son of Claud and Kathy Miller of Norborne, Missouri, will graduate this year from Norborne High School. He plans to attend Northwest Missouri State University and major in sports journalism.

Congratulations Ray-Carroll Scholarship Winners!