



#### A COUPLE OF WEBSITES WITH FARM & RANCH COVID-19 INFORMATION

Resources and News for COVID-19 <https://www.kfb.org/Kansas-Farm-Bureau>

KANSAS CORN STAYING SAFE— COVID-19 On-Farm Planning and Procedures <https://ksccorn.com/covid-19/>



This month's topic is **Winter Weeds Management Best Practices**

Go to YouTube and type this into the search bar and it will show up for you. For more topics search Pioneer Seeds.

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## GERMINATING SEED CONTINUED

Soybeans require warmer soils than corn for optimum germination and stand establishment. When soil temperatures are in the low 50's, germination proceeds very slowly. Extending the time of exposure of germinating seedlings to soil-borne disease organisms such as Pythium and Phytophthora is risky. Agronomists generally recommend waiting until soil temperatures reach 55-60° before planting soybeans. Soybeans can emerge in 5-7 days when soil temperatures are in the mid to upper 60's.

Like corn, soybeans can be injured if imbibition occurs at very low temperatures. Temperatures below 50° F during imbibition have been shown to reduce germination. The colder the temperatures during the first few hours of imbibition, the greater the reduction in seedling emergence has been shown in several research studies

#### AG RISK MANAGEMENT

Crop Insurance today offers...Lots of choices, if you want a crop insurance agent that can help you make choices from a farmers perspective contact Steve McGinn 316-284-1935



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Korey 316-641-3160

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## PLOTS & SIDE BY SIDES

Several of you do plots and side by side comparisons each year. If you have not done this in the past and would like to try some products for potential future use, please let us know. We are happy to help you and provide the seed for trying new varieties.

Pioneer has always encouraged farmers to test new hybrids and varieties. It has been our policy to provide seed for these trials. We are always doing corn, soybean, and sorghum trials.

Our only request is that we be allowed to harvest and weigh the hybrids being tested. Bushel weight and moisture can have a large effect on final yield.

We will need to practice social distancing this spring during planting. We can be present during planting or we can bring the seed to your farm for you to plant on your own.



## CORN EMERGENCE AND GOOD YIELDS

With corn planters beginning to roll soon, it is a good time to think about the relative importance of uniformity of emergence and stand uniformity.

These are two separate things. Uniformity of emergence deals with timing. Do most plants come up at the same time, or are some delayed by several days? The uniformity of the stand has to do with how consistent plant spacing is within the row.

Uniformity of emergence is the more important factor of the two as it related to corn yields. Getting good uniformity of emergence can have a big effect on yields. Producers should make an extra effort to ensure that most of the corn seed comes up at nearly the same time. Many factors can come into play.

Emergence can be delayed by having variable moisture in the seed zone, non-uniform planting depth, crusting, or non-uniform crop residue.

Research has shown that if one out of six plants is delayed by two leaf stages, yields can be reduced by 4%. If out of six plants is delayed by four leaf stages, yields can be reduced by to 8%. Other research has indicated that if plants emerged within a period of two weeks, yield reductions were less than 3%.

Planter speed can affect both emergence and stand uniformity. Research done in NE KS. Has shown that higher planting speeds reduces final plant populations. This had a greater impact on yield than did any reductions in uniformity of plant spacing.

High-residue, no-till situations can be challenging for getting uniform emergence. Uniform distribution of crop residues during harvest is essential for uniform emergence of the next crop. The use of vertical tillage, as well as chopping corn heads, are gaining popularity as ways to manage corn residue.

Planters should be adjusted to optimize seed placement and depth, also that seed firmers may help place seeds more uniformly. Emergence might be delayed slightly with deeper planting, but the corn will likely emerge more uniformly than if it were planted too shallow.

Getting good stand uniformity is also a good goal for producers, but has less effect on yield than uniformity of emergence.

You want to obtain plant spacing's that are as consistent as possible, but don't become overly anxious about it provided the typical spacing between plants is within 2—3 inches of the desired plant spacing and the final population is not substantially lower than what was desire

## COVID-19 PRECAUTIONS 🙇

We have had several customers call and text us with questions about their seed as planting time is quickly approaching. With the outbreak of the coronavirus (COVID-19) we plan to continue to deliver to your farms or load out seed at our facility and service your operation as usual as much as possible.

If you or your family are not feeling well or have potentially been exposed to someone with the coronavirus please help maintain the safety for everyone by calling or texting us as soon as possible so that we can make other arraignments to get your seed to your operation with the least amount of risk to everyone. We remain committed to keeping you going throughout the 2020 planting season.

When you come to our location we ask that you practice social distancing. Please wait in your vehicle or on the bench out front while we fill your tenders, trailers or trucks.

We don't want to risk the health of ourselves, our employees, other customers or you. We have been practicing and encouraging our employees to use good hand-washing and social distancing to help decrease everyone's risk of exposure.

We ask for your patience and understanding this Spring as we work hard to get your seed to you in a timely fashion. This may mean working together in a slightly different way than in the past for the safety of everyone during this busy planting season.

Thank you for your understanding and continued business during this difficult time. We appreciate your helpful cooperation as we all do our part to mitigate the spread of this virus.



# GERMINATING SEEDS IN CHALLENGING CONDITIONS

Planting top quality, high germinating seeds is the first step toward successful stand establishment, but soil conditions in the seed zone are also critically important. Seed germination and emergence are often challenged by cool, wet soils, or dry, cloddy soils. Most often, seeds overcome these challenges, but minimizing the pressures on the germinating seed should be a high priority to ensure better stands and higher potential yields.

### Obstacles to Germination

The trend toward earlier planting of both corn and soybeans has placed additional demands on the seed. Under cool, wet conditions in April, seed may have to survive in the soil for 3 weeks or more before emergence. Crop residues on the soil surface can result in soil temperatures at least 5° F. below those with no residue, which delays emergence. The seed must endure attacks of insects, diseases, and herbicides. Good seed quality can promote survival until warmer temperatures allow significant plant development needed to outgrow these problems.

If soils are wet at planting, sidewall smearing of the seed row and compaction may occur. Subsequent dry conditions can also result in the partial opening of the seed slot as soils shrink. Poor contact may result between seed and soil.

Dry, cloddy conditions at planting often produce the same problem of poor seed-to-soil contact. This problem can be compounded by heavy crop residues (especially corn stalks) that are not cleared from the seed zone. “Hair pinning” of residue in the seed furrow allows moisture to escape and may prevent good contact of seed with soil. On the other extreme, flooded or saturated seed beds reduce oxygen needed by the developing plant tissues. When waters recede, seedlings must often emerge through crusted or compacted soils.

### Germination Process in Corn

Absorption of water by the corn kernel is the first key even in the germination process. Sometimes referred to as imbibition. This absorption from moist soil surrounding the seed is enhanced by good seed-to-soil contact. The kernel must absorb at least 30% of its weight in water in order to germinate.

Imbibition may be slowed or even stopped altogether if the soil in the seed zone dries out.. Germination can continue when moisture returns. This is especially true in the early stages of germination, when primarily physical changes in the seed have occurred. Repeated wetting and drying cycles will decrease seed viability.

Next is an orderly transition of increased hydration, enzyme activa-

tion, storage product breakdown, and resumption of seedling growth will occur as germination continues. Enzyme activation is a chemical process in the seed. Some chemical reactions begin almost immediately, but there is little detectable change in the chemical composition until 24 to 48 hours after imbibition.

Soil temperatures regulated the rate of germination. Low temperatures slow down imbibition, enzyme activation and essentially all biological processes. Below 48-50°, most germination processes cease. Imbibition will still occur at low temperatures, however, but often with undesirable results. Imbibitional chilling injury can dramatically reduce germination when seeds imbibe water at temperatures around 40° F or below.

The radical/root is the first structure to appear from the seed coat, near the tip end of the kernel. This can occur within 2-3 days if temperatures and moisture are optimum, but could require much longer time if soils are too cool or dry. The plumule emerges next from the embryo side of the seed. This usually occurs 1-2 days after the radical emerges. The lateral seminal roots emerge last, near the dent end of the kernel.

After emergence from the seed, the plumule differentiates into a coleoptiles and mesocotyl. The coleoptiles or spike is a rigid pointed structure that is able to penetrate upward through the soil. The mesocotyl consists of tubular, stem-like material which elongates to elevate the coleoptiole toward the soil surface. 4-5 pre-formed leaves are enclosed inside the coleoptiles. When exposed to light, the coleoptiles ruptures, allowing the leaves inside to unfurl.

Soybeans must imbibe about 50% of their weight in water to begin germination. The soybean seed coat plays an active role in promoting even wetting of the seed. Any damage to the integrity of the seed coat can influence the rate of water uptake.

At an optimum temperature of 75 ° F, imbibition of the soybean seed can be completed in as little as 8-12 hours. Under cool soil conditions, 18-24 hours may be required. During this stage, the soybean not only swells but changes shape from near-round to an ovoid kidney-shape. Only 24-48 hours after planting, the radical can be seen protruding through the seed coat if soil temperatures and moisture are optimum. Seedling emergence can occur 4-6 days after planting.

After the radical emerges from the seed coat, the hypocotyls begins to elongate upward. As the hypocotyls arch breaks the soil surface, it straightens, pulling the cotyledons into an upright position. This completes the germination and emergence process in soybeans.

Continued on page 4

# DON'T FORGET TO SIGN YOUR PIONEER TECHNOLOGY USE AGREEMENT THROUGH AGCELERATE.COM WEBSITE

If you already have an *AgCelerate* account all you will need to do is to log into your account and go to your dashboard. From there you can choose *Sign Agreements*. Then simply scroll down through the agreements on the right-hand side of the page and choose the *Corteva Agriscience* agreement to sign.

If you do not have an account you will need to create one.

### Step 1 – Grower Information

1. Go to [www.AgCelerate.com](http://www.AgCelerate.com)
2. Click *Growers Click Here*
3. Enter your Email Address
4. Create a Password
5. Name – Fill this in with your Legal First, Middle and Last names. Licenses are issued to a person, **NOT** a business. The business can be covered under your license, and can be added in step 2.
6. Last 4 of SSN# – This will be your personal SSN, not the Business EIN.
7. Enter your Telephone #
8. Physical Address– The address where you reside. This is what is on your driver’s license or government issued ID and cannot be a PO Box. Don’t worry if the farm address is different. You can add that in step 2.
9. Mailing Address– Check the box if your home address and mailing address are the same. If not, enter your USPS mailing address. This can be a PO Box.
10. Choose the Crops which you farm
11. Click the box to accept the *Terms of Service and Conditions of Use*
12. Click *Continue to Next Step* Validating Addresses

### Step 2 – Farm Information

The farms or entities you need covered under your licenses must be listed under “My Farms” so the seed license agreements can be associated with them.

For all farms that you are associated with, click the *orange This is your farm button*. If it is not your farm or you are no longer associated with it, click the *grey this is not your farm button*. This address must be the physical address where

your farm is located. PO Boxes will not be accepted here. You can update the information by clicking the grey *Edit Farm* button.

The business mailing address can be entered as the account mailing address after registration is complete, if needed. If none of your farms are listed, then manually add them by clicking *Add a Farm*. Fill out the required fields and validate the address. Click *Save* when done. Repeat to add multiple farm businesses as needed. Once you are done click *Continue to Final Step*.

### Step 3 – Supplier Information

Select all of the seed suppliers you do business with from the list provided.

### Step 4—Return to the dashboard and choose – Select Agreements

⇒ **Scroll** down the list on the right side of the page for the *Corteva Agriscience* agreement.

⇒ **Select Agreements** – Once you have selected the agreement you need to sign, the banner for the agreement will be highlighted in orange. Then click *Sign Selected Agreements*.

⇒**Information** – A small window should appear that will ask for any additional information that may be needed based on the agreement selected. Answer the question(s) and click *continue*. Note: If you do not get a popup, you may need to check if you have pop-ups or redirects blocked in your internet browser settings.

⇒**ID Questions** – In this next step, you will be asked a minimum of 3 multiple choice questions based on your background, using the information that you entered during the registration process. If any of your registration information is not your personal information, these questions will not populate and you will have to call the Support line for assistance.

⇒**Signing the Agreements** – In this step you will use DocuSign to sign the actual agreement(s). Make sure your browser will allow pop-ups and has a current PDF reader installed. Click continue and follow the prompts.

## 2020 PIONEER REPLANT POLICY

If you find that you need to replant any field (for any reason) originally planted with Pioneer brand corn, grain sorghum, forage sorghum, sorghum sudangrass, sunflowers or soybean seed; Pioneer will furnish replant seed at 50% -100% off of the current variety price . The discount amount you qualify for will depend upon what level Infinity Discount you are at.

Platinum customers qualify for 100% replant. Gold level qualify for 75% replant and Silver liver qualify for 50% replant.

Replant seed will be authorized only for the same year that the product is invoiced. Replant seed will be of suitable maturity for the conditions. Pioneer is not obligated to furnish specific hybrids/varieties or kernel sizes for replanting.

## HAVE SOMETHING TO SELL?

IF YOU WANT TO ADVERTISE FARM EQUIPMENT OR FARM RELATED ITEMS YOU MAY DO SO FREE OF CHARGE. DEADLINE IS THE LAST DAY OF EACH MONTH. SEND YOUR AD TO

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