



# SEEDS 2000 Beyond 2000

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Published by SEEDS 2000® — *Technology in your seed.*

Volume 13

Spring 2009

## New, Elite Corn Hybrids Respond to Increased Plant Population

Increasing plant population can have a positive impact on yield but consideration must be given to hybrid characteristics and where the hybrid is grown. Continuous annual increases in corn grain yields have been observed in the U.S. since the introduction of hybrid corn in the 1940's (Thomason 2005). Most of the increase in corn genetic yield potential has been attributed to enhanced stress tolerance (Thomason 2005). Tollenaar et al. (1999) indicated increased stress tolerance, combined with increased stand uniformity under stress conditions, will probably continue to provide the highest potential for yield improvement in corn in the next decade.

New elite genetics in hybrids today offer even higher yields and better stress tolerance. Although greater stress tolerance is available, growers can't lose sight of the fact that hybrids need to be matched to conditions unique to each field. With good planning and use of multiple trait hybrids a grower can ensure greater uptake of nutrients and water, thus mitigating many stresses during the season. Relief from compound stress and greater resource uptake is associated with increased leaf longevity, a more active root system, and maximizing radiation to the leaf canopy (source) therefore maximizing grain production during grain fill (Tollenaar 1999). Stacked trait hybrids with YieldGard VT Triple® protects against multiple stresses; roots are protected from corn rootworm larvae and stalks, leaves and ears have broad spectrum protection from European corn borer, southwestern corn borer, corn earworm,

fall armyworm, and western bean cutworm. Plus, Roundup Ready® relieves herbicide and weed competition stress.

Generally corn yields increase with increasing populations (Thomason 2005; Williams et al. 1968). Today's hybrids have been bred for higher optimum densities (Thomason 2005). But what is the optimum planting density for these new elite hybrids? It has been shown that the optimum plant population density (number of plants that maximize grain yield) depends on hybrid genetics (Collins et al. 1965; Cox 1996; Widdicombe and Thelen 2002). Corn typically does not have much plasticity (flexibility) such that populations below or above optimum do not respond effectively to a reduction or increase in available resources (light, nutrients, water) (Williams et al. 1968; Tetio-Kagho and Gardner 1988; Cox 1996). However, some hybrids respond to population changes differently than others (Maddonna and Cirilo 2001). This increases the importance of having information on each hybrid rather than using the general 28- 32K plants/acre.

Currently, research and economics concur that planting more corn per acre is in the best interests of farmers (Fee 2008). The National Agricultural Statistics Service conducted yield surveys in 10 corn-producing states in 2006. Stand counts taken from randomly selected plots, monthly from August through harvest indicate most of the fields surveyed were at the bottom of the optimum population range or below it (Fee 2008).

University and industry experts agree



that there are two important reasons to consider planting more plants per acre, particularly for growers who haven't increased their corn population rates in recent years. First, corn genetics have improved, and will benefit from higher plant populations (Fee 2008). And second, corn prices have improved significantly, providing financial rewards for higher plant populations (Fee 2008). New, elite genetics protected with multiple biotech trait stacks will require assessment of responsiveness to increased plant population regardless of maturity to ensure optimum production. Increased stress tolerance through genetic traits, increased leaf angle, and less plant to plant variability may have changed optimum planting densities as we know them today.

## Breaking CRP Ground

The Conservation Reserve Program (CRP) was established by the U.S. Department of Agriculture to promote the long-term retirement of sensitive crop land from production by paying farmers to establish a permanent long-term vegetative cover. Within the next few years millions of acres of CRP nation-wide will have their contracts expire, and with increased commodity prices, some of these acres will be coming back into production. We will talk in this article about the different steps

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# Farm Scene

## Test Weight...Standability...Price

Darin Raguse—Nashua, Minnesota

Darin Raguse of Nashua, MN stays busy farming 2,500 conventional till acres of sugar beats, corn, soybeans, wheat, navy beans, and alfalfa. He also has an offsite livestock partnership, raising Lowline (previously Aberdeen Angus) cattle. His wife Sarah, works at MeritCare in Fargo as a Recreational Therapist. They have a 1 ½ year old son, Kadin, with another baby due to be born in May. Congratulations to the Raguses from SEEDS 2000!

Darin's operation is the third generation on this family farm. He grew up helping farm, and went to college at the U of M Crookston, with an Associate degree in Crop Production. He's been farming for about 20 years.

Darin has planted SEEDS 2000 soybean & corn products since 2005. In 2008 he planted 2060 RR beans and was very pleased with the yield, 42 bu/acre. His '08 corn crop was exclusively SEEDS 2000 and will be for '09 as well. In '08 he planted 2955RR and 9601 VT3 corn, and was very pleased with the results. It all averaged over 160 bu/acre, moisture was about 24% which he dried to about 14.5%. "The elevator said it was some of the best test weight they'd seen." He was also very happy with the standability. The advantages that Darin sees with SEEDS 2000 products are: "Competitively priced, and doesn't lack anything in yield. 2060RR soybeans are really good on tough ground."

The management practices he uses include using the recommended rate of



fertilizer—usually fall application. He's an advocate of liquid fertilizer in the furrow at planting. He sprayed soybeans twice, and corn once—and "was real pleased with how clean the fields were."

Darin's suggestions for fellow growers include: "Farmers should give SEEDS 2000 products a chance, at least some of the crop if not all, because they'll compete well with other companies. And my Sales Associate, Mark Keller—when I have a question he always has an answer."

## Plant Jaguar!!

Brian Bollingberg—Cathay, North Dakota

The Brian Bollingberg family lives along the James River by Cathay, ND, and have been farming since 1983—passed down generation to generation. They farm 2,000 acres of grain land to barley, wheat, corn, alfalfa, 1,000 of the acres being sunflowers; and 1,000 acres of pasture with a 200 head cow/calf operation, mostly Black Angus. They've used mostly conventional till on the grain land, but are trying no till every year with wheat. Brian says they've noticed a difference with the crop, there's more moisture available, and yielded 8–10 bu. more per acre last year. His wife Celine works in Pharmacy at the hospital in Harvey, and has been there for almost 20 years. She makes most of the grain farming decisions as she is very knowledgeable with the markets and the scientific aspects of grain farming. Their son Thomas is a

junior at the Fessenden High School, and is "100% farmer, my main man," according to Brian. "He does the majority of the seeding and all of the spraying—three times a year, doing the tank mixing all on his own." Brian says that Thomas chose farming over sports in school. He also has 20 head of cattle, but likes the grain end of farming better. They all work well together as Brian prefers to work mainly with the cattle operation.

Brian spoke with SEEDS 2000's Greg Watterud at the Big Iron show and said he wanted an early maturing CLEARFIELD® sunflower hybrid. So, 2008 was the first year for them to plant Jaguar sunflowers. Brian says they were finished combining the flowers before some others in the area had started. The early maturity also helps cut down on bird problems. "SEEDS 2000 cares more than



other companies, there's good follow-up with us." Results? Brian is still hauling flowers (as of this printing) so he doesn't have concrete numbers, but is very satisfied with his preliminary estimates. He said that the processor is very happy with the seed size as well. The advantages of using SEEDS 2000 product over others Brian expands on are: "Communication—the product sells itself—early maturing, large seed size, and there were not many blanks noticed at all. Whenever we can get done with combining flowers before snow, it's a

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huge plus for our operation. It allows me to spend more time with the cattle operation—we usually bring them home from pasture around November first. Last fall the Jaguars were nice & dry, 11–12%, and we combined before frost!”

Brian’s management practices with the sunflowers include putting Prowl® and Spartan® on together after seeding. They used Beyond® and “the ground was black—I’d never experienced that before.” “We ran out of Beyond on the last five acres, and there was a real difference.” They did Roundup® with some of the Spartan for quack areas in the spring, but mostly just Prowl and Spartan right away after seeding. They used Section® with Superb® HC on grasses when the flowers were about a foot tall. Brian said they plane spray in the fall for seed weevils, and noticed that bug damage was way down.

Suggestions Brian has for other farmers about SEEDS 2000: “Seed Jaguars! I firmly believe in that. If you want good, clean ground—no till or conventional—you can seed right into good clean ground, fertilizer and seed and you’re done with it. Cuts way down on costs. We’ve seeded your competitors before this and they didn’t perform, dry down was terrible, standability was bad, and they were later maturing even though they said the crop would be early maturing. We go back into them with wheat vs. barley because of the Beyond herbicide. The ground is just as clean as the soybean ground except for the sunflower stalks. I don’t have any dislikes with SEEDS 2000, because I can’t pick it apart, it’s good from start to finish. Greg turned out to be a good friend because he cares about our farm, and that means a lot.” Brian says, “We were seeding at a higher population before ‘08, and he talked me into reducing the population. I was very leery. We went from 20–21,000 down to 17,000, and we experienced better seed size and saved money on seed, so we kept expenses down without losing yield.”

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## The Road Ahead: What can we expect over the next six months?

By Mike Krueger

Now is a dangerous time to be making market predictions for several reasons:

1. Virtually no crops have been planted across the entire northern half of the country. This means we could still have significant changes in planted acres from the March 31<sup>st</sup> USDA planting intentions numbers. The USDA does not update acres until late June.
2. Extended weather outlooks continue to look cool and wet into late April and early May—but we all know how quickly those forecasts can change.
3. We have the entire Northern Hemisphere production season ahead of us.
4. The fate of the world economy is still far from certain, although the outlook does appear somewhat brighter today.

Knowing that many of the key market ingredients, namely 2008 production levels, are still far from resolved, there are a number of other factors to consider that will also affect prices levels as we move forward. It is important to recognize that supplies of soybeans will be very small going in to the next marketing year. That, plus the fact Argentina’s soybean crop was badly hurt by drought, will make the final soybean acres number very important. It means the soybean complex can’t afford to have fewer planted acres than in 2008. The risk for soybean prices is that if planting does get delayed it would mean more soybean acres than expected will get planted. While US corn ending supplies will not be tight at the end of this marketing year, it is a sure bet that corn demand in the coming year will be far better than it has been this year. Corn export demand has been terrible because of the glut of cheap feed wheat around the world. That glut will not be around in the coming year. US corn exports went from a record 2.4 billion bushels last year to just 1.7 billion this year. Corn exports should rebound to 2 billion bushels. Ethanol demand for corn was also stifled this marketing year by smaller livestock herds, cheap corn, and poor ethanol profit margins. The Verasun bankruptcy likely cut corn ethanol usage by 300 million bushels. That demand should be back in the coming year. Feed consumption should also rebound as livestock consumption and profitability improves. This means total corn consumption could be as much as a billion bushels larger than the current year. It will be necessary to hold corn acres unchanged and have a very good yield in 2009 to prevent corn supplies from dropping to very tight levels. Wheat supplies in this country doubled from last year’s record small level because of more planted acres and good yields in 2008. We already know that farmers have planted four million less acres of winter wheat than in 2008. We also know that it got too cold across a very significant part of the hard red winter wheat region in early April and that yield was hurt in those areas. Spring wheat acres will also be smaller than last year. The result is that the US wheat crop could be between 2 billion and 2.1 billion bushels compared to 2.5 billion bushels in 2008. The result will be a tightening of wheat supplies. Protein wheat like hard red spring and hard red winter should tighten the most while soft red winter wheat supplies expand again. The jury is still out on what will happen to the minor crops like sunflowers, barley, dry beans, etc. Indications are that farmers will plant less barley, canola and sunflowers and more flax and possibly dry beans. But weather over the next 45 days will decide what gets planted.

So where does all of this leave us? Weather will be important to planted acres



## THE ROAD AHEAD...cont. from pg. 3

over the next 45 to 60 days. Cool, wet weather will mean less corn and more soybeans get planted and this would be bearish soybean prices and bullish corn prices. It's almost impossible to talk about weather problems once the crops get planted because soil moisture is plentiful nearly everywhere. It will take a much extended period of warm, dry weather to change that outlook. So the market will assume good yields once crops get planted. Use any planting related rallies to get some new crop bushels sold. The longer term fundamental outlook is not bearish from current price levels. World supplies are far below the levels of the 1980's and 1990's while population and consumption continue to grow. The world will need to consistently produce big crops to keep supplies adequate.

## BREAKING CRP...cont. from pg. 1

that need to taken to have a successful crop the first year after CRP. We will also discuss the pros and cons of different crops for the planting after breaking CRP for the first time.

The first thing a producer needs to make sure of before breaking ground is that their contract for CRP is expiring. Producers breaking CRP out before their contract is up will result in the person paying back all payments received from the land for the time it was in CRP. This isn't economically feasible. The second thing a grower needs to consider is the reason most of the land was placed in CRP was because of the highly erodible nature of the land, and to remain eligible for most USDA benefits, they need to manage the ground under an approved conservation program. Most all CRP contract follow the federal fiscal year, so the contract will begin October 1st of the year enrolled, and will end September 30th of the final year in contract. After the contract expires on September 30th haying, grazing, tillage or any chemical applications are permitted.

When a grower is breaking out CRP and deciding on what crop to grow there are many things to take into account. Some of these are: commodity prices, tillage practices, pest control, soil moisture levels, amount of residue, and soil nutrition values. First we will talk about tillage. It is usually better to have worked the ground at least once in the fall to break up some residue and save valuable time in the spring. Moldboard plowing is the most effective way of incorporating residues, but will leave the land exposed to elements and prone to erosion. A person may want to consider double-chisel plowing followed by a disc or a harrow to properly incorporate most residues and be able to plant with most planters. Burning the residue is highly discouraged, this will cause a loss in N and Sulfur, as well as organic carbon.

Perennial CRP grasses, quack grass, broadleaf weeds and perennial woody plants must be eliminated for a successful transition from CRP to productive farm ground. The best weed control is achieved by applying glyphosate to actively growing plants. This means the application in the fall needs to be applied a week before the first killing frost, and in the spring needs be after green up when new plants are at least 6 inches in height. A combination of both tillage and herbicide application is the most beneficial way of preparing for planting the land.

The first and most important step when preparing to fertilize CRP ground is to get an accurate soil test. Chances are that the amount of N in the soil will be very low, so producers should consider applying 20-25 percent more N than to normal cropland. When plant residues have not been removed, expect P and K levels to be similar to what they were pre-CRP. When looking at the soil test results consider how much of these nutrients are in plant available form before deciding on the amount of fertilizer needed. Also, expect the soil moisture levels in CRP be reduced from normal cropland. This should be taking into consideration where water is the

major limiting factor for crop production and a crop requiring low amounts of moisture should be planted.

Finally, producers need to decide which crop to plant and what the advantages and disadvantages of that crop are. If planting corn, some of the advantages are: high yield potential, excellent insecticide and herbicide options; and, it is large seeded and may be easier to plant. Some of the disadvantages of planting corn are: high levels of fertilizer needed; insect problems (wireworms, white grubs, cutworms); cool soils under heavier residues will slow emergence and a shorter window for planting in the spring. Another option for a crop selection is soybeans. Soybeans provide an advantage because of late planting dates, the use of glyphosate resistant varieties, and the soybean plant will fix its own N. Some of the disadvantages of soybeans are that they shouldn't be planted on high pH soils and certain broadleaf weeds may be problematic. Also, if planting soybeans, consider inoculating with soybean specific Rhizobia bacteria to enhance nodulation for N fixation. If the decision is the plant sunflowers following CRP, some of the pros include the late planting window in the spring, not a host for grass diseases, and sunflowers are very deep rooted and will remove nutrients from deeper in the soil profile. Cons to planting sunflower include some soil insects may be problematic and perennial broadleaf weed control may be difficult. Planting Clearfield tolerant sunflower varieties or sunflower with the Express tolerant trait will enhance broadleaf weed control options. Following some of these guidelines should help produce a successful crop the first year after CRP.

Source: NDSU Extension Service, bulletin A-1364: "Bringing Land in the Conservation Reserve Program Back Into Crop Production or Grazing" June 2008.



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# Safety First This Spring

With spring planting right around the corner and everyone getting ready for the rush that ensues, it is important to take a second to remember safety comes first. Agriculture work is one of the most dangerous occupations in the U.S. with an average death rate of nearly 30 people per 100,000 workers, according to the U.S. Bureau of Labor Statistics. Farming also has one of the highest levels of job related stress. Stress and fatigue can lead to farm accidents as farmers can lose concentration and focus when operating machinery for long periods of time. Often, farmers are exposed to hazardous chemicals such as anhydrous ammonia, carbon dioxide, and methane gas all of which can cause acute and chronic illness. Farmers may suffer from respiratory problems due to exposure to large amounts of dust and chemicals. Most farm-related accidents are caused by machinery, with tractors being the leading cause of farm-related deaths, accounting for over 50% of them. Here are some things to remember during this up coming planting season.

- Adopt a no rider policy on your tractors and other farm equipment
- Ensure that equipment is maintained properly and all shields and guards are in place
- Read and follow all labeled directions while applying pesticides
- Store chemicals in a safe, secure place out of the reach of children
- Have a first aid kit available and know how to use it
- Give children only tasks that are appropriate for their age and ability
- If your tractors are equipped with a seat belt, use it
- Try to get as much rest as possible
- Slow down and be aware of your surroundings
- ATV drivers should wear a helmet and shouldn't allow passengers



These are just a few simple rules a person should follow to have a safe and successful spring season.



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