



Wheat Producers Advantage

South Dakota Wheat, Inc.

March 2019

Producers Share Concerns with Congressmen in Washington, D.C.

Working for the SD wheat producer is the primary function of SD Wheat Inc., (SDWI). Communicating with USDA offices, state legislators and congressional congressmen, one on one, helps to drive home our message.

On February 14th, President Todd Mangin, Vice President, Doug Simons and member Terry Hand traveled to Washington, D.C. to voice concerns about producer's difficult financial status! Banks across SD claim that 50% of producers are facing disastrous financial times. Top of the list affecting producers finances include trade tariffs, health insurance and high input costs.

Wheat farmers have seen several years of continuous low commodity prices. The drop-in commodity prices have been much faster than the change in cost of production. The expectation of continued low prices has contributed to some of the lowest wheat acreage in the U.S. in history. Farmers are having a difficult time making ends meet and SDWI officers emphasized these points with our Congressmen.

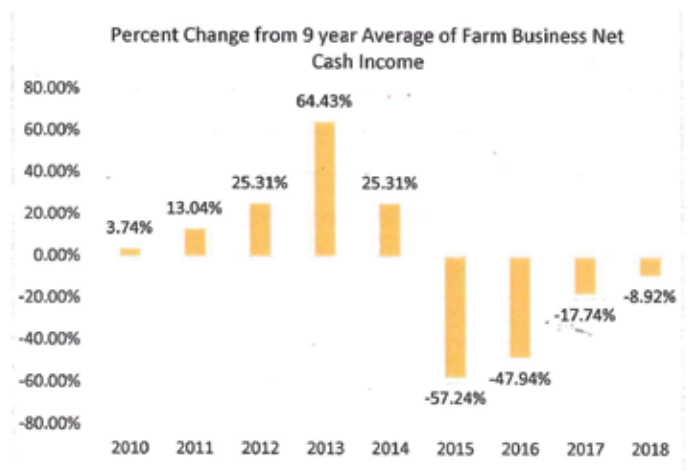
President Mangin stressed with Senator Rounds "that health insurance for his family of five is over \$26,000 per year, which is unsustainable with today's wheat prices." Senator Rounds shared the fact the Associations, once again, will be able to create a pool to offer health insurance which may help producers deal with high cost of insurance. Todd also shared that the fact that, "inputs cost, specifically urea, have gone up yet again and if we could build a local plant to create the urea from natural gas from North Dakota, it may bring the price down."

Net cash farm income is the cash available to farmers to draw down debt, pay taxes, cover family living expenses, and to invest. It has been down nearly 70% since 2013 for wheat farmers. Complicating low wheat prices and low farm income, has led to instability in global markets. US farmers aren't competing on a level playing field, as other major wheat-producing countries like China are violating their WTO trade commitments in how they support their farmers and tariff-rate quotas (TRQ) administration, ultimately driving down world prices.

Vice President Simons encouraged Senator Thune to stress to the President, that although we want to see a level playing field with other countries on trade, wheat producers can only hold on so long. "It will be a year in March since China purchasing any wheat from the US." says Simons, "We are concerned that we may lose markets to other counties permanently."



Terry Hand, Doug Simons, Todd Mangin, Caren Assman and Senator John Thune.



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Diversity brings benefits to rotation at Dakota Lakes

The exploits of the Dakota Lakes Research Farm, near Pierre, S.D., and its farm manager, Dwayne Beck, are well-documented. According to numbers from 2014, the research farm has helped increased crop production in the surrounding area by \$1.6 billion compared with production in 1986.

“We achieved this success not because we set out to improve yields. That wasn’t our goal,” Beck told a room full of farmers and conservationists at a recent Cover Crop Management Day in Columbus, Neb. “Our goal was to better manage the ecosystem, make the water go in the ground, do a better job of harvesting the sunlight. We used native prairie as our model.”

This involves what Beck refers to as a “brain transplant” in thinking about the long-term resiliency of the land and how native vegetation has evolved and adapted to local growing conditions — and mimicking Mother Nature by adding diversity to the rotation.



“Weeds and diseases are Mother Nature’s way of adding diversity to a system that lacks diversity,” Beck says. “Mother Nature is an opportunist. Nature’s efforts to add diversity to the system can be countered by adding beneficial diversity of your own.”

For Dakota Lakes, this increased diversity has resulted in no need for applying broadcast insecticides for 17 years — including on a field that’s been continuous corn since 1990.

However, Beck notes it also is useful for knocking back weeds.

While a two-year rotation such as corn-soybeans or wheat-peas every other year might sound like a better rotation than a continuous crop, Beck notes that it still leaves a lot to be desired from a weed suppression standpoint.

With longer rotational intervals (the amount of time in a rotation before coming back to the same crop or same herbicide mode of action), weed seed populations have less opportunity to grow or develop herbicide resistance.

Beck cites a long-term study (from 1990 to 2002) at Dakota Lakes evaluating different rotations and their effect on weed populations: winter wheat-chickpeas; winter wheat-corn-chickpeas; and a more diverse rotation of chickpeas-winter wheat-corn-soybeans.

“Where we had wheat-chickpea for 12 years, we had 94 weeds per square meter. Where we had wheat-corn-chickpea we had 40,” Beck says. “Where we did a more diverse rotation, which isn’t a good rotation from a carbon standpoint, but a good rotation from a weed standpoint, we had 7.”

While tillage often is brought up as a last resort for controlling resistant weeds, Beck says tillage often leads to more weed seeds being brought to the soil surface. In that same study, using tillage in the two-year rotation led to 225 weeds per square meter after 12 years. This means the no-till, four-year rotation had 97% weed control.

In a separate study using green foxtail seeds buried at different depths — 0, 2 and 4 inches — only 11% still were alive on the soil surface after two years. Of those buried at 2 inches, 28% were alive, and 55% of those buried at 4 inches were alive.

“If you till it again, they’ll come back to the surface and start to grow,” Beck says.

However, bringing diversity to the rotation also benefits yield and profitability, Beck says.

At Dakota Lakes, expanding to a rotation of corn-corn-soybeans-winter wheat-soybeans, with a cover crop seeded after winter wheat, resulted in a yield benefit not only for corn but soybeans as well.

By comparison, a continuous corn rotation resulted in an irrigated corn yield of 203 bushels per acre — with 1,015,000 bushels when spread out over 5,000 acres. With a corn-soybean rotation, that increased to 217-bushel corn, with 62.9-bushel soybeans — or 542,500 and 157,240 bushels, respectively, at 2,500 acres each.

Expanding to the five-year rotation raised corn yields to 235 bushels and soybean yields to 78.8 bushels — or 470,000 and 157,600, respectively, at 2,000 acres each — with the addition of 120,000 bushels of wheat.

“I get more total bushels of soybeans on 2,000 acres than I would on 2,500 acres in corn-soybean,” Beck says. “Plus, I get 120,000 bushels of wheat. So, I lose 72,550 bushels of corn to gain 120,000 bushels of wheat and 350 bushels of soybeans. That’s a pretty good trade. Then I get a chance to grow cover crops better, and get weed control, disease control and insect control.”

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| Economic Return ¹ —3-Year South Dakota Spring Wheat Variety Trial Results | | | | |
|--|--------------|-------------|---------------|-----------------|
| | Yield (Bu/A) | Protein % | \$/Bu | Gross \$/Ac |
| SY Valda | 58.7 | 15.7 | \$6.95 | \$408.27 |
| SY Ingmar | 56.7 | 16.2 | \$7.19 | \$407.65 |
| WB9653 | 59.0 | 15.5 | \$6.79 | \$400.46 |
| HRS 3504 | 58.9 | 15.4 | \$6.71 | \$395.25 |
| Surpass | 54.2 | 16.2 | \$7.19 | \$389.89 |
| SY Rustler | 54.2 | 15.9 | \$7.11 | \$385.27 |
| LCS Trigger | 61.0 | 14.7 | \$6.16 | \$375.52 |
| Prevail | 52.2 | 15.8 | \$7.03 | \$366.92 |
| Boost | 50.5 | 16.5 | \$7.19 | \$363.38 |

2016-2018 Average—SOSU Extension Data

¹ Economic return calculated using Sept. local cash grain price of \$5.60 for 14% protein. The premium for 15% protein is 79.45 cents, and the discount for 13% is 55.36 cents. Up here and in the past we have capped out the premiums at 16% protein.

Locations:

2018 – Aberdeen, Agar, Miller and Selby

2017 – Aberdeen, Agar, Miller, Doland, Selby was hailed out

2016 – Aberdeen, Agar, Miller, Faulkton and Selby

For local performance data, call your local AgriPro Associate.

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March 23, 2019

Bake and Take Day

South Dakota Wheat is again holding its annual “Bake and Take Day!” This year’s event occurs on Saturday March 23, and we invite home bakers of all ages to slow down, relax and embrace community spirit by baking homemade goodies and sharing them with friends, neighbors or folks who may not be able to bake themselves.

And if you participate in Bake and Take Day, you just might win a prize. Contestants who write in to share their Bake and Take activity will be entered into a random drawing for \$50 cash in one of four categories. Participants need to indicate a category -- youth individual (4-17), youth group, adult individual (18 plus), or adult group – on the entry form. If no category is indicated, the entry will be placed in the category that most fits the information provided. All eligible entries collected via e-mail and U.S. mail by April 12, 2019 will be included in the drawing.

“Bake and Take Day has a long tradition in South Dakota as an activity designed to educate consumers in the importance of home baking and wheat foods consumption,” says Caren Assman, for South Dakota Wheat. “The personal visit to members of the community is as rewarding and important as the baked goods you take them.”

Send a summary of the activity, recipe and picture to the South Dakota Wheat, Box 667, Pierre, SD 57501 or e-mail the information to the SDW at wheatinc@midco.net. Include any community service aspects, and comments regarding how the activity strengthened the bonds between individuals. Any one that bakes and takes a wheat product is eligible for the contest.



2019
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 December 10th and 11th
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South Dakota Wheat, Inc.

Improving Protein Content in Wheat

Wheat producers in South Dakota always strive to grow a premium product. Quality in wheat often depends on test weight and protein content. Protein premiums and penalties in wheat have increased interest among wheat growers in producing a product that meets or exceeds market standards (standard protein is 12% for hard winter wheat).

Factors to Consider

It is possible for producers to manage winter wheat for protein content. Several factors affect protein content in wheat including genetics, timing, precipitation, temperature and heat during the growing season. In addition soil nitrogen levels, source, amount and timing of nitrogen fertilizers play a role.

The primary building block or component of protein is nitrogen. Therefore, a lack of nitrogen available to wheat can limit yield and/or result in low-protein wheat. Typically, wheat will use the available nitrogen to satisfy yield potential before it uses nitrogen to produce protein. Therefore, in environments where yield is not limited by moisture or heat, protein content could be negatively affected by a lack of additional available nitrogen to satisfy the plants requirements.

Timing Fertilizer Applications

Fertilizer management for high-protein wheat can be tricky. Applying all of the nitrogen at seeding, especially in winter wheat, could result in nitrogen losses under certain environmental conditions or unnecessary expense if the season becomes hot and dry. Similarly, high levels of nitrogen available to winter wheat in the fall under favorable growing conditions could result in excessive tillering, delayed maturity and lodging. The wheat plants often have to abort tillers as temperatures rise in the summer and moisture becomes limiting. Nitrogen used to produce aborted tillers is then not available to support yield or protein.

Nitrogen uptake in winter wheat is highest in the spring between March and May. Producers can opt to apply a substantial portion of their nitrogen to their winter wheat in the spring. Applying fertilizer in the spring allows the grower to base his yield potential on mid-season growing conditions and crop potential. However, fertilizer should not be applied on top of snow and, depending on the form used, additional moisture will be required after the application to ensure the fertilizer is moved into the soil.

Some producers have the option to apply fertilizer in a mid-row band at seeding. This system has a number of benefits. Producers can apply enough fertilizer at seeding to allow the crop to meet a conservative yield goal. The nitrogen is not available to the wheat seedlings until spring when roots reach the fertilizer band. This should prevent the wheat from setting excessive tillers in the fall. The fertilizer is placed in the ground which protects it from potential losses due to volatilization. The nitrogen is available to the wheat in the spring when N uptake in winter wheat

increases rapidly and adverse weather can prevent spring fertilizer applications.

Adding Additional Nitrogen

In a year when environmental conditions are conducive to high wheat yields, growers still have the option to add additional nitrogen if they think yield may exceed the original yield goal. Nitrogen additions up until growth stage Feekes 5 (end of tillering) can support yield. Nitrogen additions made at Feekes 6 (jointing) or later will impact kernel set, size and protein.

In situations where wheat has a high yield potential it is important to remember that wheat will use available nitrogen to satisfy yield first and then convert nitrogen to protein. Low protein wheat is produced when nitrogen availability matches yields but is insufficient to produce acceptable protein. In most situations where nitrogen is limiting, additional applications made at Feekes 6 or later can help bump protein. Nitrogen applications should be based on soil tests and fertilizer recommendations.

Carrier Home 11:05 AM
Wheat N Calculator

2-ft depth Soil Test Nitrate-N (lbs/acre)
0.0

Percent Organic Matter In Soil (%)
0.0

Nearest Nitrogen Price (\$/pound)
0.6

Nearest wheat Price (\$/bushel)
7

Home Forward

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Developed by Honggang Bu for Prof. David Franzén in 2016

When is it Too Late to Plant Wheat?

April of 2018 may go down as one of the coldest on record. Typically spring fieldwork begins in South Dakota in early April or even March. This year it will most likely be the first week of May at the earliest in most areas of the state. Farmers have begun to consider switching acres away from small grains and into later-planted row crops such as corn or soybeans. One producer asked ‘When do I start losing yield?’ That can be a difficult question to answer definitively, as weather variations are such a large factor in the final yields of spring wheat.

Understanding Yields

Hard Red Spring wheat is one of the most tolerant crops to cold temperatures and frost events. Germination and growth will begin when the soil temperature reaches 40°F. It should be planted as early as possible since cooler weather from emergence to the early reproductive stages generally benefits tiller formation and the development of larger heads. Increased growth during the early season typically results in higher yields.

For example, a study in North Dakota showed that spring wheat planted on May 1st had six fewer days of growth from emergence to 6-leaf stage when compared to wheat planted on April 15th. The number of days was further reduced to eleven when planting was delayed until May 15th. Yield data related to this research suggests that wheat loses 1.5% of its yield potential every day after the optimum planting date. However, this can vary greatly from season to season.

Optimum Planting Dates

Optimum planting dates in South Dakota vary according to the location within the state. The range of dates for optimum planting and latest recommend planting date are listed for nine South Dakota regions in Table 1.

It is recommended to increase seeding rates as planting date is delayed from the optimum date to compensate for the loss in tiller formation. The recommended minimum

seeding rate for a normal planting date is 1.2 million pure live seeds per acre, although no-till producers may want to plant more. Seeding rates should be increased by 1% per day for each day planting is delayed. For example, if the optimum planting date is considered to be April 15th, and planting does not occur until May 10th, the seeding rate should be increased by 25% (1.2 million seeds/acre x 1.25 = 1.5 million seeds/acre). SDSU does not recommend planting more than 1.8 million seeds/acre.

The Bottom Line

If conditions are right, late planted crops can still produce strong yields. In 2015, the SDSU Extension spring wheat variety trial plots were planted on April 13th in Volga, SD and May 1st in Selby, SD. The average yield in Volga was 57 bu/acre and the average yield in Selby was 71 bu/acre.

The wild card in this situation is the weather in June and July. Wheat is highly susceptible to heat during pollination and grain fill. Prolonged exposure to daytime temperatures above 85-90°F and especially nighttime temperatures above 70-72°F during these growth stages can drastically reduce yields, especially if soil moisture levels are low. At present, the National Weather Service is calling for equal chances of above or below normal temperatures in the May-July timeframe. Decisions on weather risk are ultimately up to each individual producer.

References:

* Hall, R.G. 2012. *Spring Wheat Planting Guide*. p. 45-49. In: Clay, D.E., C. G. Carlson, and K. Dalsted (eds). *iGrow Wheat: Best Management Practices for Wheat Production*. SDSU Extension, Brookings, SD.

* Weirsmas, J.J., J.K Ransom, and V. Hofman. 2012. Chapter 5 – Planting. p. 27-33. In: Weirsmas, J.J. and J.K Ransom. (eds). *The Small Grains Field Guide*. University of Minnesota Extension, St. Paul, MN and North Dakota State University Extension, Fargo, ND.

Table 1. Optimum and late planting dates for spring wheat in S.D.

| Region | Optimum range | Latest Recommended |
|--------|---------------------|--------------------|
| NW | April 8-27 | May 19 |
| NC | April 8-27 | May 12 |
| NE | April 8-27 | May 15 |
| WC | April 5-22 | May 13 |
| C | April 5-22 | May 8 |
| EC | April 5-22 | May 11 |
| SW | April 1-18 | May 13 |
| SC | March 25 - April 15 | May 9 |
| SE | March 25 - April 10 | May 11 |

Source: *iGrow Wheat: Best Management Practices for Wheat Production*



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DISTRICT 4

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DISTRICT 5

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DISTRICT 6

Steve Rumpza

DISTRICT 7

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Caren Assman, Executive Director

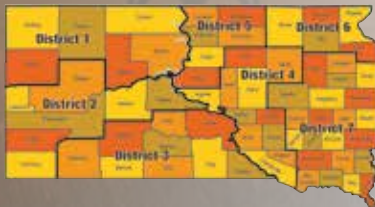
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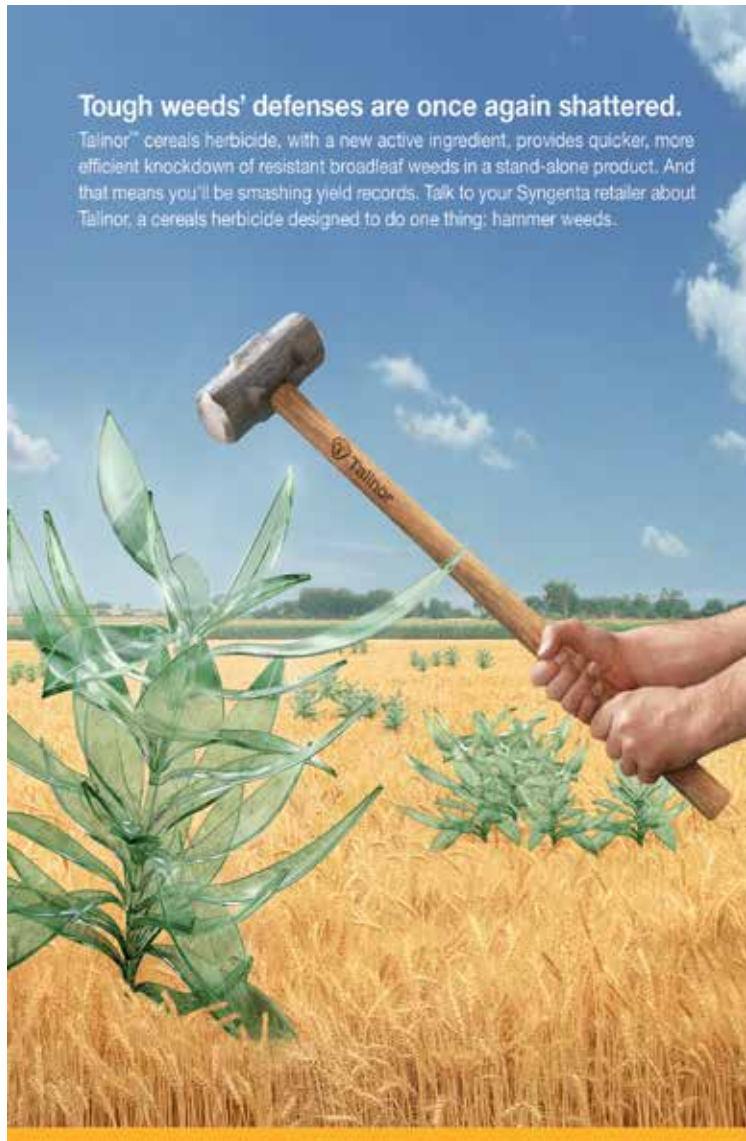
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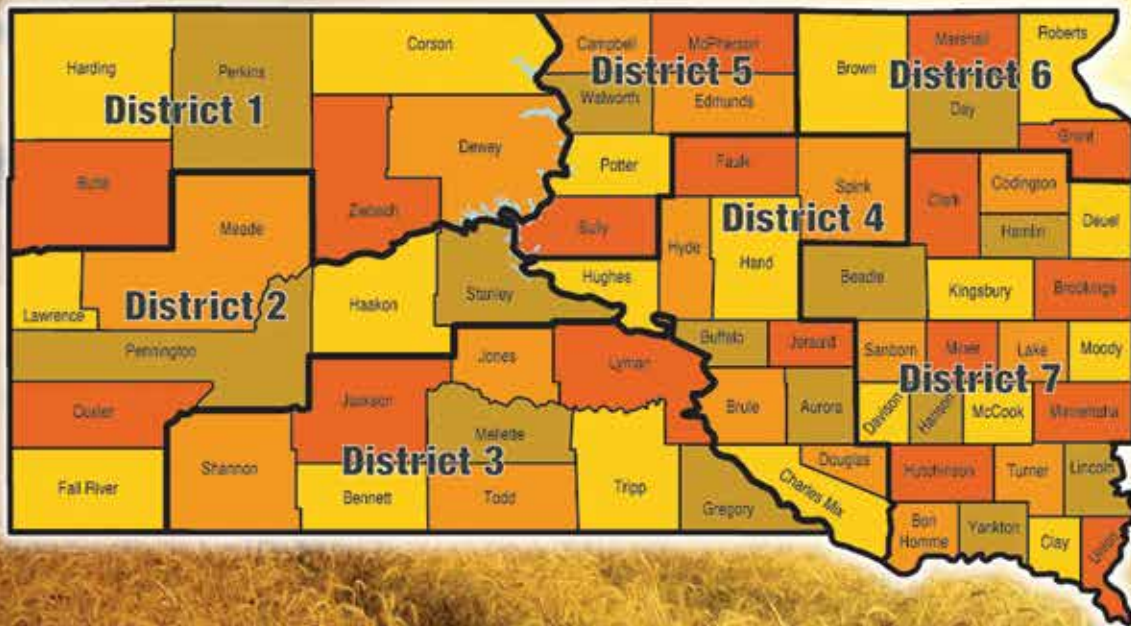
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2019 Wheat Yield Contest

Seven Districts will award two prizes each
1st - \$500 2nd - \$300

May 15, 2019, is the application
deadline for spring and winter wheat.



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