

## WHEAT 2020: SUCCESS WITH FALL PLANNING



Producing wheat increases yields of soybeans and corn in your crop rotation; it lowers overall farm fixed costs, provides a winter cover crop for better soil health and higher soil microbial activity, recovers leached nutrients, enhances weed control and generates cash flow in July when it is most welcomed.

Contracts for July 2020 soft red winter wheat have been trading over \$5.00. This is a terrific opportunity for producers to increase wheat acres.

The past four years have seen late weather problems limit farm profits. The impact of these problems could have been reduced by understanding these principles for variety selection:

- **Heading date** and **maturity** are NOT THE SAME.
- **Heading date** indicates which varieties get PLANTED first to avoid spring freezes
- **Maturity** indicates which variety gets HARVESTED first. Once wheat is ripe (30% moisture), nothing good happens until it is harvested.

With fewer barley acres, growers wanted early maturing varieties to get soybeans planted earlier. The seed companies responded. Most varieties now have early maturity dates which makes it a problem since not all wheat can be harvested early. Growers have to decide now which fields will be harvested first.

Some fields need LATE MATURING varieties to avoid harvest damage (low test weight and/or falling numbers) from rain, dews or extreme high heat.

### Fall Guide to High-Yield Wheat

Here are other items to focus on when planting for high-yield wheat:

- Plant high quality, disease-free USG varieties from Renwood Farms: **seed source does make a difference even with the same variety**
- Apply **Vizor Plus** or **Vizor 5Z** seed treatment to avoid root rot, increase nutrient uptake and control fall insects above and below ground

- Select varieties with different heading dates to avoid spring freeze and different maturity dates to space harvest dates
- Select varieties with above average tolerance to scab (fusarium) and a solid disease resistance package: **understand each varieties' weaknesses**
- Eliminate weeds at least three weeks prior to planting
- Fertilize with nitrogen, sulfur, boron, molybdenum, copper and/or zinc regardless of the previous crop yields: add phosphate and potash if previous crop removed these nutrients.

### USG Varieties

**USG 3790: NEW:** top yield in VT OVT in 2019; 5 bu./acre better than *Shirley*: late-heading/ late maturity wheat. Excellent test weight with resistance to soil virus, septoria and mildew. Medium short straw to prevent lodging. Plant first and harvest last to perform.

**USG 3536:** #1 wheat yield in NC in three-year average. Strong yield performance over the entire Mid-Atlantic area in 2018. Full bearded variety with excellent test weight. Above average disease package: moderately resistant to soil-borne viruses (good for heavier soils). Moderately tolerant to scab: taller wheat if straw production is important.

**USG 3316:** NCSU state contest winner. Top yields in VA: full beard with excellent resistance to scab: highly resistant to leaf and head septoria, moderately resistant to soil-borne viruses (heavier soils). Excellent tillering for geese-damage control.

**USG 3895:** Short stature variety produces very high yields in VA and NC; excellent test weight. Selected for planting on lighter soil types due to deep rooting: Above average resistance to glume blotch plus leaf and stripe rust. Moderately tolerant to scab. Excellent milling wheat for food-grade markets.

## WHEAT FALL 2019

### Wheat Success with Fall Planning

**USG 3404:** Powerful wheat with high yields, very good test weight and an outstanding disease package. Top yields in VA Tech and NCSU wheat official variety trials (OVT). This is the most versatile and widely adapted USG wheat variety available. Average tolerance to scab.

**USG 3228:** Very high yields at all locations North of the James River (PA, MD, DE and VA). An early maturing variety with **resistance to scab**: superior disease package with a very showy, smooth head. This is an early-maturing variety, so this variety needs to be **harvested early**. Plant thicker to produce higher yields.

**USG 3329:** Great test weight with above average scab tolerance. It produces very high yields averaging 93.6 bu./acre in NCSU 2018 OVT trials. This bearded variety has above average stripe rust resistance which makes it a good choice for South of the James River and NC wheat production.

**USG 3230: NEW:** This is an early heading variety to be planted late: fast emergence and good early growth: for heavier soils with resistance to soil virus. Good resistance to southern rusts and mildew. Excellent test weight: must be managed for scab

**USG 3118:** Excellent test weight in this late-planted, early-harvest variety. Averaged 95.7 bu./acre in 2018 NCSU OVT trials and highest yields in 2019 NCSU trials. This is a short-stature variety with a tip beard and a very aggressive tillering characteristic: very good resistance to stripe and leaf rust, powdery mildew and Septoria leaf blotch. Average tolerance to scab. Good winter hardiness.

#### Renwood Farms Seed Treatments

<b>Vizor™</b>	Unique multiple fungicide treatment with higher rates for longer, stronger protection
<b>Vizor Plus™</b>	<b>Vizor</b> with insect control for aphids and Hessian fly
<b>Vizor ZN™</b>	<b>Vizor</b> with zinc
<b>Vizor 5Z™</b>	<b>Vizor Plus</b> with zinc

**Vizor™** seed treatments are designed to stop the diseases associated with both warm and cool soil temperatures. Seed treatments other than **Vizor™** are usually added to protect in cold soils only. **Vizor™** contains a seed “cleaner”.

In addition to stopping diseases early, **Vizor™** provides 200 days of protection compared to only 35 days for other seed treatments.

**Reminder:** when there are dry spells in August, the Hessian fly goes dormant and “Hessian Fly-free Dates” are not relevant. Damage from fall aphids and/or Hessian fly is a disaster for profitable wheat production.

Adding a seed insecticide at the proper rate **added 4.3 bu. /acre in NCSU trials**.

Growers often request seed insecticides but most suppliers use the lowest rates allowed by the labels which lowers efficacy.

Group 1 earliest planting	Group 2 & 3 middle planting	Group 4 last planting
USG 3790	USG 3895	USG 3230
USG 3536	USG 3404	USG 3118
USG 3316	USG 3228	
	USG 3329	

Planting the right variety in the right planting window is critical to avoid spring freeze damage. The table at left shows which variety is recommended for the different planting windows.

Planting G4 varieties too early enhances chances for spring freeze damage. Planting G1 varieties too late means not enough time for fall tillering which means lower yields.

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### Vizor™ Seed Treatments for the Mid-Atlantic and Southeast

**Vizor Plus™ and Vizor 5Z™** provides Gaucho 600 at 1.5 ozs. /100 lbs. to provide protection from aphids, Hessian fly and soil insects **all fall**.

Renwood Farms can include **zinc** on seed. Zinc is needed as a plant nutrient but it also stimulates soil microbes to release more nutrients to the plant. **Adding zinc to seed has increased plant manganese levels** in field conditions.

Manganese deficiencies are common in wheat especially after cotton and/or on lighter soils in general. Adding zinc on the seed has **eliminated the need for in-season foliar manganese** applications in most cases.

Zinc seed treatments can prevent sharp eyespot fungal infections on soils with very high phosphorous. In 2013, adding **zinc to the seed increased yields by 16 bu. /acre** in Renwood Farms seed production. Seed treated with zinc has increased wheat yields by 12 bu. /acre or more in Mississippi, North Carolina and Virginia.

The table below shows 2019 AgPLUS™ data from Eastern VA. Using the same variety, treating wheat seed with **Vizor 5Z improved yields by 3.4 bu./acre** compared to Awaken and Foothold seed treatment with a fall foliar insecticide to control Hessian fly and aphids. Rates of active ingredients matter.

2019 test	# Fields	Acres	Bu./ A Yield
<b>Vizor 5Z</b>	14	211	78.9
Awaken + Foothold & foliar insecticide	38	575	75.5
Difference/ acre bu.			3.4
Difference @ \$5.00/bu.			\$17.10

#### Weed Control

Weeds should be eliminated at least three weeks prior to planting with tillage or chemicals.

If no-till, add Sharpen® in the burndown to provide 30 day residual control of winter annuals. Control Roundup-Ready volunteer corn.



**Vizor 5Z on right compared to Dividend Extreme on left in 2010: NCSU found an 8 bu./acre improvement in yields with Vizor Plus over Dividend Extreme in three-year trial.**

#### Plant Nutrition

Nitrogen rates will range from 25-40 lbs. acre depending on no-till (higher rates) or conventional tillage. All fields will require 8-10 lbs./acre of sulfur. Both are needed to establish fall tillers

Zinc, copper, boron and molybdenum are all required by wheat plants. Soil tests will indicate zinc and copper requirements. Altavista soil types will need copper.

Apply .25 lbs./acre of boron and .3 ozs./acre of molybdenum with fall burndown/ early post-emergence since these nutrients leach and must be spoon-fed throughout the season.

Phosphates and potash will be needed if high yields from the previous crop removed these nutrients. If dry weather has reduced yields, rates can be reduced but generally it works best to follow your Nutrient Management Plan.

At Renwood Farms, we produce disease-free seed (wheat is sprayed three times with fungicides every year). It is protected it with advanced seed treatments at full-labeled rates to clean and protect seeds and seedlings. Renwood Farms offer seed nutritionals to stimulate soil microbes that balance nutrition to ensure your success in every bag, on every acre, each and every year!

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**Fall 2019 Wheat Variety Characteristics (listed in order of planting)**

Variety	Maturity	Height	Head Type	Test Weight	Mildew	Glume Blotch	Scab Tolerance	Soil Virus
USG 3790	L	S-M	A	2	2	3	3	1
USG 3536	ME	M-T	A	2	3	3	2	2
USG 3316	ME	M	A	2	3	2	2	3
USG 3895	M	S-M	A	2	NR	2	3	4
USG 3404	M	M	A	3	2	2	3	2
USG 3228	E	M-T	S	4	3	3	1	2
USG 3329	ME	M	A	2	NR	3	3	2
USG 3230	E	S-M	A	2	2	NR	4	3
USG 3118	E	S	AL	2	3	3	4	3

Maturity: E = early harvest, M = medium harvest, L = late harvest

Height: S = short, M = medium, T = tall

Head Type: A = awned (full beard), AL = awnletted (tip beard), S = smooth (no beard)

Test Weight: 1 = best, 9 = worst

Mildew, Glume Blotch, Scab, Virus: 1 = best resistance 9 = least

