



# WHEAT: SCAB AND DISEASES

We are rapidly approaching the time for the decision to apply a wheat fungicide to control scab, glume blotch and/or stripe rust. While glume blotch and rust lower yields and reduce grain quality, scab presents the larger threat.

Scab (fusarium head blight) is a disease that infects wheat heads at flowering. Grain harvested from wheat infected with scab has lower yields, poor grain quality, low test weight and often contains vomitoxin (DON toxins produced by fungi) that make the grain less palatable to livestock and harmful to humans. Scabby wheat will be rejected for use as food-grade milling wheat and docked as feed-grade wheat.

The decision to apply one last fungicide (**hopefully, at least one fungicide has already been applied**) is based on these factors:

- Variety disease resistance or tolerance
- Weather during flowering
- High yield potential
- When the wheat is harvested
- How wheat is sold

### Variety Disease Resistance

Renwood Farms selects USG genetics for extensive disease resistance. The table shown at right lists popular USG wheat varieties and their resistance to leaf rust, glume blotch and scab.

A scab resistant gene was discovered around 2002 and has now been inserted into several varieties offered in the Mid-Atlantic and Southeast markets.

In Renwood Farms' checks, non-fungicide treated scab-resistance varieties have tested as low in DON levels as fungicide-treated comparisons when tested by the VDACS wheat quality lab in Chesapeake, VA. In the table, varieties with a 3 or 4 under the scab ratings column may require a scab fungicide treatment under ideal scab weather conditions.

### Weather During Flowering

There are two weather events that have to happen right at wheat flowering for scab infections to occur: moisture and temperature.

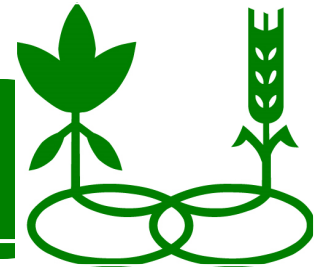
Variety	Maturity	Stripe rust	Glume Blotch	Scab
USG 3790	L	1	3	3
USG 3536	ME	1	3	2
USG 3316	ME	4	2	2
USG 3895	M	2	2	3
USG 3404	M	3	2	3
USG 3228	E	2	3	1
USG 3329	ME	3	3	3
USG 3230	E	2	NR	4
USG 3118	E	3	3	4

Diseases: 1 = best resistance 9 = least  
NR = not rated



Wheat flowering

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**Moisture:** leaf wetness needs to average over eight hours/day with relative humidity over 65%. It doesn't have to be raining to produce leaf wetness. Wide temperature swings (creates dews) and high humidity produce enough leaf wetness for the fungus to thrive.

**Temperature:** the scab fungus need averaged daily temperatures between 68F and 85F. The current forecast is for most of the Mid-Atlantic is for much cooler temperatures in the next ten days. The average daily temperature for the next 10 days in Manquin, VA is forecasted to be 53F compared to 60F average for the past 10 days. Both are too cold for scab.

### **High Yield Potential**

Yield potential has been a good indicator for fungicide applications as higher yields means thicker plant density producing higher leaf wetness. To determine the yield potential, measure 19.2" of row and count the number of tillers with a head to get the number of tillers per square ft. in a 7.5 row spacing. Test weight has yet to be determined but ballpark yields will range from 1.1 to 1.4 bu. /acre for each tiller. The rule of thumb is that if yields predicted to be greater than 70 bu. /acre, a fungicide to protect these yields is considered prudent.

### **How the wheat is harvested**

Growers who can harvest wheat at 21% moisture and dry on-farm can reduce the impact of scab. The longer the wheat crop stays in the field, the more time the disease has to expand.

### **How the wheat is sold**

For growers who are selling into a food-grade market or are producing seed will almost have to spray unless conditions turn very dry in the next 10 to 14 days. Growers who sell into a feed market have a little more leeway.

**Fungicide Recommendations:** Where varieties are not resistant or tolerant and weather conditions right, scab will be an issue. To reduce scab infections, apply either Prosaro (7 ozs. /acre), Caramba (14 ozs. /acre) or Miravis Ace (13.7 ozs./acre) from early flowering to ten days after the start of flowering. **Do not use any strobi fungicide mixes at this stage.**

For several scab-resistance wheat varieties, resistance to glume blotch is weak. If this is the main concern, then Tilt® (cheaper) can be used. Tilt can be applied from flag leaf emergence up to mid-flowering.

### **Insects**

As of today there is no insect pressure **in fields that received a GS5/GS30 insecticide.** If no insecticide was added with the GS30/ GS5 application, an insecticide may be needed for Cereal Leaf Beetle or armyworms.

### **Going Forward**

Watching the weather forecasts for the next 10 to 14 days will help growers decide which choice to make concerning fungicides. Keep an eye on dew points, humidity and rains. Once average daily temps go over 68F, it is warm enough for scab infections.