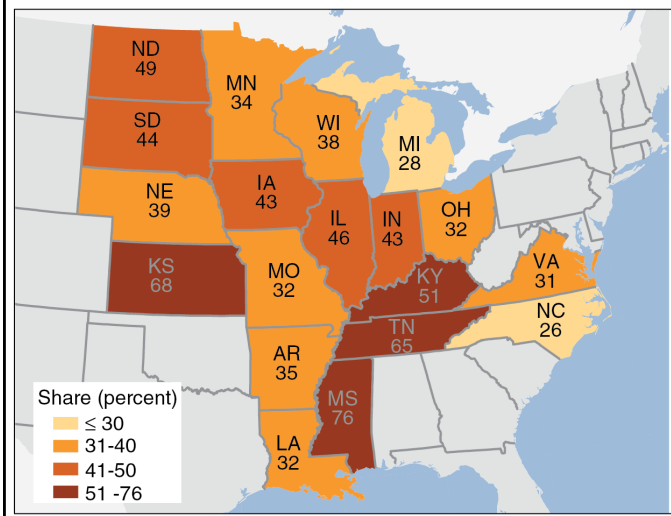


## 2021 Soybean Variety News

### Trait Choices Increase for 2021 *by Paul W. Bodenshtine, agronomist*

A soybean variety's **weed control system** has become the driver of seed decisions for many growers. Weeds resistant to multiple herbicide mode of action (MOA) drove the market to adapt dicamba genetics.

Share of soybean acres planted with dicamba-tolerant seeds, 2018



Within two years of introduction, 43% of all US soybean acres were planted in dicamba-tolerant seed, according to the USDA (graphic above).

Notably, *not all fields planted in dicamba-tolerant traits receive dicamba*. In Mississippi, 79 percent of soybean acres were planted with dicamba-tolerant seeds, but only 54 percent of these acres were treated with dicamba. In some cases, farmers may only use dicamba if glyphosate-tolerant weeds appear. In other cases, dicamba-tolerant seeds are planted to prevent yield losses from unintended exposure to dicamba.

On June 3, 2020, the U.S. Ninth Circuit Court of Appeals issued a decision to vacate three dicamba herbicides, XtendiMax (Bayer), Engenia (BASF) and FeXapan (Corteva Agriscience). The Court decided that the EPA did not have enough evidence to support its approval and also underestimated and ignored risks posed by the herbicide. Tavium, the Syngenta dicamba herbicide entry, was not included at that time.

Last week, EPA approved new registrations for XtendiMax and Engenia and extended the registration for Tavium. These new registrations will expire in 2025. ***Probably the biggest change for Mid-Atlantic Xtend producers is the June 30 deadline for application for use on soybeans.*** This will impact double-cropped soybeans.

#### Soybean Herbicide Trait Choices for 2021

**New XtendFlex® soybeans** are now available to provide farmers with triple-stacked tolerance to dicamba, glyphosate and glufosinate (Liberty®).

Built on the high-yielding Roundup Ready 2 Xtend® technology, farmers get additional tolerance to glufosinate for more flexibility and herbicide choices to manage weed control challenges. **There is a limited amount of seed available for 2021.**

**Roundup Ready 2 Xtend** soybeans have been adapted so quickly by the US soybean market due to the high yields and an effective system to control resistant weeds despite complex application requirements and drift damage issues in some markets.

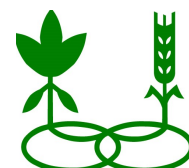
In VA/NC OVT variety trials, over 85% of the top yielding varieties trials since 2018 have been ***Xtend*** varieties. The yield response with lower planted populations has been impressive.

**Enlist E3®** soybeans offer three herbicide tolerances (2,4-D choline, glyphosate and glufosinate) to deliver a system with multiple weed MOA options. Our best results in 2020 came with tank mixing 1 qt./acre each of Roundup, Liberty and Enlist One.

The ***Enlist E3®*** system has afforded less stress about drift or volatilization. We recommend it to be your first choice where **any off-target movement** causes concern. Yields have not been as impressive as Xtend genetics but we expect this yield gap to narrow with a vastly improved 2021 genetics line-up.

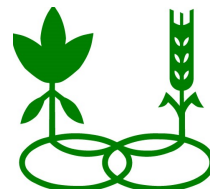
There are other herbicide traits available but supplies are limited due to weak demand because of significant yield differences in the new auxin-based genetics. These include Roundup-Ready, Liberty-Link and GT-27 varieties. There are also conventional soybeans available for sale in 2021.

#### **Pre-emergence Herbicides**



## Renwood Farms Featured USG Varieties for 2021

Variety	Traits	RM	Notes
7441XF	Xtend Flex, SCN	4.4	<b>NEW!</b> Three-way herbicide tolerance: Roundup, Liberty and dicamba. A medium height, semi-bushy gray bean. Very vigorous emergence with excellent standability. This variety is resistant to stem canker and frogeye leaf spot with PI88 gene for SCN 3 and 14.
7481XF	Xtend Flex	4.8	<b>NEW!</b> Three-way herbicide tolerance: Roundup, Liberty and dicamba. A medium height, semi-bushy light tawny bean. Very vigorous emergence with excellent standability and stress tolerance; for lighter soils. This variety is resistant to stem canker and frogeye leaf spot
7447XTS	Xtend, STS, SCN	4.4	Top yield in 2019 <b>VT, DE and MD OVT</b> . Strong emergence in cooler soils, excellent charcoal rot resistance for lighter soils and <b>very good against Sudden Death Syndrome (SDS)</b> . Light tawny pods means better resistance to purple stain
7480XT	Xtend, SCN	4.8	Top-yield in 2019 VT-OVT for full-season (fs). Excellent resistance to stem canker. Excellent shatter resistance with strong emergence and stands well; this is a tawny, semi-bushy variety
7496XTS	Xtend, STS, <b>RKN</b> SCN 3 & 14	4.9	The only MG4 Xtend variety with moderate resistance to <i>Root Knot Nematode</i> ! A light tawny pod with resistance <b>to stem canker and Sudden Death Syndrome</b> with a semi-bushy structure makes this perfect for early or double-cropped (dc) fields; with STS trait for herbicide flexibility
7529XTS	Xtend, STS	5.2	Top MG5 in NC-OVT. This is a hard charging, high yield bushy soybean with stem canker resistance for planting after soils warm in May; with the STS trait
7451ET	Enlist 3	4.5	A gray bean with resistance to stem canker and frogeye leafspot: very good against <b>Sudden Death Syndrome</b> . Strong emergence and standability
7471ETS	Enlist 3, STS, SCN	4.7	A gray bean with resistance to stem canker and frogeye leaf spot with PI88 gene for SCN 3 and 14; excellent emergence and stress tolerant
7480ET	Enlist 3	4.8	A gray bean that performs on lighter and heavier soils. With superior stem canker and above average frogeye resistance. Above average tolerance to <b>Sudden Death Syndrome</b> .
7491ET	Enlist 3, STS	4.9	Averaged 49 bu./acre in 2019 VT-OVT dc trials. Performs on lighter soils. With superior stem canker and above average frogeye resistance
5618V	CON	5.6	A tawny conventional soybean from VA Tech. It is a high-yielding soybean with excellent brown spot, stem canker and frogeye resistance. It has good emergence and stands well with a medium-height and semi-bushy structure



Regardless of weed control system selected, residual herbicides are still recommended. VA Tech released a chart showing that certain residual herbicides cause crop injury with some degree of frequency.

On coarse/ sandy soils, VT gave an “Excellent” or “Very Good” (rare crop injury) to soil applied herbicides Dual, First Rate, Spartan, Zidua and Outlook.

Of the premixes, only Authority First, Anthem Max and Prefix were noted as “Very Good” for being soil applied pre-plant or pre-emerge. Avoid choosing residual herbicides that cause crop injury especially when planting into cool soils.

Metribuzin (Sencor) is still a good option when applied at least 30 days prior to planting.

## Post-emergence Herbicides

When applying any of the post-emergence herbicides, it will be necessary to add a Group 15 herbicide such as Dual, Outlook or Zidua to the tank to extend weed control (“layered residual”).

## Observations from 2020

Growers are still planting soybeans too thick especially in double-cropped beans. High planting density reduces yield by suppressing production of leaf sugars, proteins, amino acids and chlorophyll. It reduces nitrate reductase activity which is key for disease protection and nutrient utilization.

Higher planting populations increase lodging, increase plant competition for nutrients and increase disease pressure. Overpopulation reduces the number of branches, pods and seeds.

Sudden Death Syndrome (SDS) showed up in 2020 (see photo below) likely due to a very chilly and wet May.



It will help to note which fields showed SDS symptoms and select varieties with some resistance and/or add a seed treatment to control.

In 2020, soybeans in many fields got infected by soil-borne fusarium blight or seed-borne fusarium, two of several fusarium species that plague soybeans in the Mid-Atlantic.

Fusarium infections cause roots turn dark brown to black. There are no red lesions on stems like rhizoctonia. **Cotyledon leaves become yellow and drop off.** Fusarium species are worst when soybeans are planted under warm/hot conditions in slightly acidic sandy soils. Nematodes can increase pressure by wounding roots to open pathways for infections.







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**Office: 804-829-2450**

**Paul Bodenshteyn (agronomist): 804-314-7463**

**Call us with questions! Pre-pay options and discounts available on seed and seed treatments!**

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## **Observations from 2020** *(continued from page 3)*

Even when plants emerge and start to grow, the infections continue to spread. Most growers think that when a seed has emerged, trouble is over. But that is simply not true. Diseases continue to spread and build populations inside the plant. These infections lower yields and impact plant and seed development.

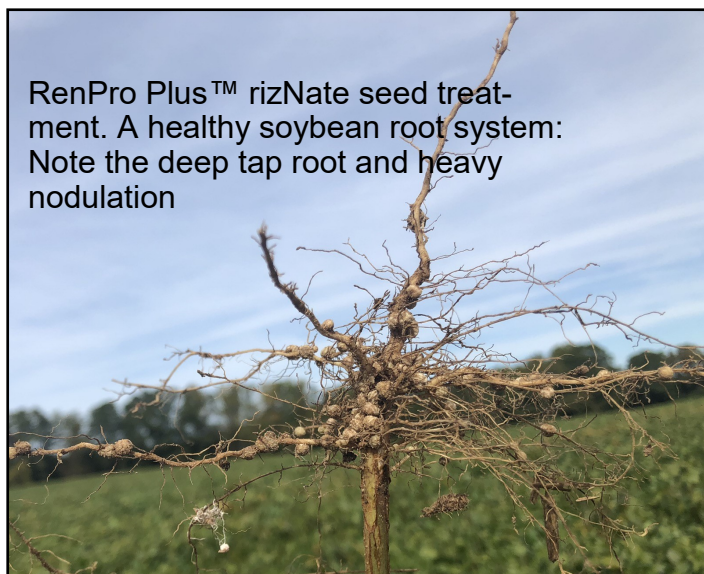
The pictures shown at right show a normal, healthy soybean root system with a plant treated with **RenPro™ Plus** rizNate (at top) compared to a fusarium- infected root system from a plant with another seed treatment (at bottom). Part of the cause was the 82F average daily temperature in July in Central VA. Depending on the infection intensity, **RenPro™** soybean seed treatment improved yields from 4 to 16 bu./acre.

**RenPro™** seed treatment is the **ONLY** seed treatment available that protects against diseases that occur under warm/hot soil conditions as well as cold soil conditions. This treatment also provides:

- Cleaner seeds as they remove fungal pathogens carried **on** the seed from last season
- Molybdenum to regulate nitrogen uptake and utilization and enhance disease resistance
- Insecticide for protection from above and below ground insects
- Biological microbes to stimulate plant growth and protect roots from soil pathogens (**RizNate™**)
- Nematode protection with **Bio-ST®**

USG soybean varieties treated with **RenPro™** seed treatments have produced higher yields more often than any other soybean seed treatment system in on-farm tests.

Call us so we can demonstrate the value of the Renwood Farms Soybean Production System in your farming operation.



RenPro Plus™ rizNate seed treatment. A healthy soybean root system: Note the deep tap root and heavy nodulation



"Fuzzy Roots". A soybean root system infected with fusarium blight on a plant with a different seed treatment: there is no tap root and very few nodules