

2023 Soybean Variety News

Full-Season Soybeans Gain Acres *by Paul W. Bodenshtine, agronomist*

In 2021, the USDA reported that the Mid-Atlantic states of MD, DE, VA and NC now plant 2.8 million acres of soybeans. About 65% are full-season and 35% are double-cropped: **full-season beans have become the predominant soybean crop in the Mid-Atlantic.**

In the VT variety trials in 2021, early planted full-season MG3 and MG4 averaged 77 bu./acre. The double-cropped yields for the exact same MG3 and MG4 varieties averaged about 61 bu./acre or 16 bu./acre less. Growers have a lot of incentive to plant soybeans in April.

For growers who have experience with double-crop soybeans, **full-season production presents different challenges.** For full-season soybeans, regardless of location, the optimum planting date is April 10 to April 30. This allows for as much plant development before the Summer Solstice (around 6/21) as possible.

The chart below shows the optimum planting date for maturity groups (MG) **based on our 30-year temperature and climate patterns.**

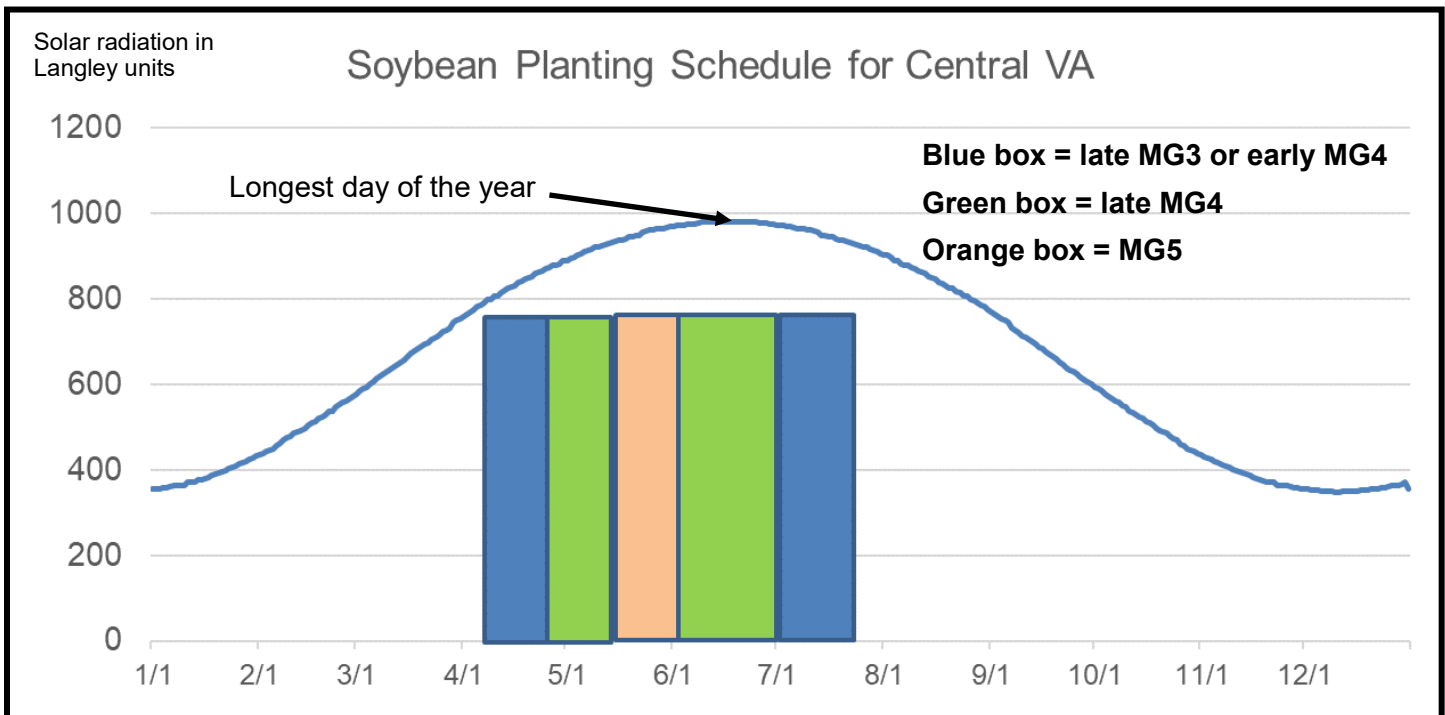
For full-season soybeans, the strategy is **to either:**

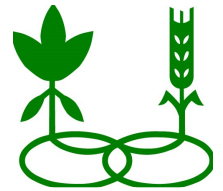
1. Plant MG3 and MG4 (not MG5) in April to beat the July/ early August heat (blooming before 6/21)
2. Outlast the heat by planting a MG5 in May so it blooms after Aug 20. (nights get cooler)
3. Plant a MG4 after May 25 to bloom after Aug. 20

The MG3 and MG4 varieties have higher yield potential but cannot take much heat stress. The MG5 varieties can take more heat stress but produce lower yields in an optimum environment.

Once we get into late-May/ early-June and double-cropped soybeans, the best choice is to move back to a late MG4 then to an early MG4 or even a late MG3 as we move into late June.

It's important to recognize that late summer tropical storm rainfall make it possible to produce double-cropped soybeans in the Mid-Atlantic. But these rains beneficial for the DC soybeans will cause purple-stain and phomopsis seed decay in ripe unharvested full-season beans as we saw in 2018. Be prepared to harvest when mature. Defoliation is recommended.





Producing High Yield Soybeans

The key to producing high yield soybeans is to focus on the soybean plant and its relationship with the microbes (mostly bacteria, fungi, protozoa, algae) living in the soil and *in and on* the plant.

In fact, we advocate for growers to formulate a ***nutrition plan for the plants*** and a ***nutrition program for the microbes***. To this end, Renwood Farms has formed a working relationship with ***ROI Biologicals*** to have bio-stimulants, plant growth promoters, humic and fulvic acids, inoculants, foliar products, seed additives and other biological solutions available to Renwood Farms' customers.

In the table below, we illustrate how these bio-solutions fit into a soybean production program. Plant tissue samples at R1 and R3 will dictate specific blends but the table gives a working strategy going into the season.

This program increases yields by expanding node production, multiplying pod set and expanding pod fill. The program lowers cost by reducing fertilizer expenses and solves production problems by enhancing weed control and reducing the incidents of purple stain, especially on full-season soybeans.

Soybeans are efficient at finding most nutrients in the soil if growers can enable microbes to help make these nutrients available.

Soybean plants with a productive, healthy root system growing in a soil with active microbial populations will produce all the nitrogen and phosphorous a soybean plant can use.

Molybdenum, sulfur, iron, manganese and potassium remain the most limiting nutrients in Mid-Atlantic soybean production.

Multiple ***molybdenum*** applications have increased soybean yields between 5 to 12 bu./acre in ag.systems' plots. Soil and foliar strategies will work. Molyron contains iron and molybdenum which work best together as a foliar. (see table)

Sulfur cannot be supplied as a foliar so soil applications are essential, either preplant or pre-emerge.

Iron and manganese will

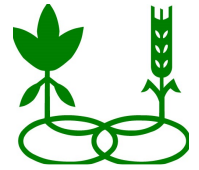
only be effective as foliar since they tie-up when soil-applied. Foliar applications of ***iron and manganese*** are most effective ***split applied*** and before R5.

Potassium (K) is critical for pod fill. Soybeans are good scavengers for soil K but may need some help late as soils dry. Foliar applications of ***K-Acetate*** have been effective when applied prior to R3.

Foliar applications need to address specific nutritional issues so the amount of nutrients applied per application is critical for success. Plant tissue samples at R1 and R2 will help identify limiting nutrients. Most foliar fertilizers have very low rates of nutrients. Research suggest that foliar nutrients other than Mn and Fe are limited in effectiveness when applied after R3 begins.

Molyron Impact in 2021	Bu./ acre
w/ fungicide at R1	70
Molyron, no fungicide	64
No Molyron, no fungicide	56

Soybean Growth Stage	Rate / A	Product
Broadcast preplant with herbicide burndown	2 gals.	Amplify™ Humic Acid
Broadcast preplant with herbicide burndown	8 ozs.	16% Molybdenum
Preplant or pre-emergence: Sulfur	20 lbs. /acre	10-0-0-18 (10-15 GPA) or AMS
With post herbicides around between V3-V5	1 qt.	Exalt™
Foliar with fungicide (twice); once at R1 (first bloom with Topguard EQ) and again at late R2 with Revytek (when any pod on top four nodes have pods 1/4" long)	1 qt. each	Fortress™ & Molyron™ (K as Potassium Acetate may be required)



Renwood Farms USG Varieties for 2023

Variety	Traits	RM	Notes
7392XFS	Xtend Flex, STS, SCN	3.9	Replaces USG 7441. Top three variety in VT OVT in 2021 and 2022. Four-way herbicide tolerance: Roundup®, Liberty®, STS and dicamba. A tall, bushy light tawney bean. Very vigorous emergence with excellent standability. This variety is resistant to stem canker with PI88 gene for SCN 3 and 14.
7463XF	Xtend Flex	4.6	NEW: To replace 7461XFS, a top three variety in VT OVT in 2021 and 2022. ; with better Sudden Death resistance to fit for both for early planting and double-crop. Four-way herbicide tolerance: Roundup®, Liberty®, STS 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. Very high yield potential.
7472XFS	Xtend Flex, STS, SCN	4.7	The USG workhorse soybean variety: consistent high yields in demanding or optimum conditions. Four-way herbicide tolerance: Roundup, Liberty, STS and dicamba. A medium height, semi-bushy gray bean. Very vigorous emergence with excellent standability. This variety is resistant to stem canker , Sudden Death and frogeye leaf spot with PI88 gene for SCN 3 and 14.
7483XFS	Xtend Flex, STS, SCN	4.8	NEW: A top-ten variety in 2022 VT OVT Trials. Four-way herbicide tolerance: Roundup, Liberty, STS and dicamba; with better Sudden Death resistance to fit for both for early planting and double-crop. A medium height, semi-bushy light tawney bean. Very vigorous emergence with excellent standability. This variety is resistant to stem canker, Cercospora and frogeye leaf spot with PI88 gene for SCN 3 and 14. Very high yields in a defensive variety.
7461XTS	Xtend, STS, SCN	4.4	A top-yielding variety in the VT 2022 OVT Trials. Strong emergence in cooler soils; very good against Sudden Death Syndrome (SDS) , frogeye leaf spot and stem canker. Light tawny pods means better resistance to purple stain.
7496XTS	Xtend, STS, RKN, SCN	4.9	Outstanding yields for five years: state trial champ. The only MG4 Xtend variety with moderate resistance to Root Knot Nematode! A <u>light tawny pod</u> with resistance to stem canker and SDS with a semi-bushy structure makes this perfect for early or double-cropped (dc) fields; with STS trait for herbicide flexibility
7420ETS	Enlist 3, STS	4.2	Four-way herbicide tolerance: Roundup, Liberty, STS and 2,4-D. A gray bean with resistance to stem canker and frogeye leafspot with PI88 gene for SCN 3 and 14 resistance. Strong emergence and standability.
7472ETS	Enlist 3, STS	4.7	Top yielding Enlist variety in the 2021 and 2022 VT OVT full-season in Warsaw and 2021 State-wide double-crop trial results. Four-way herbicide tolerance: Roundup, Liberty, STS and 2,4 -D. 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. Moderately resistant to SDS.



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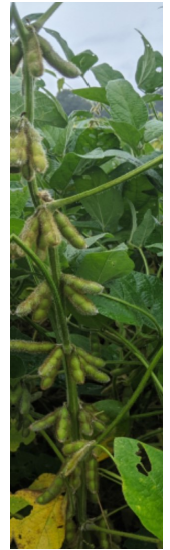
For sales, orders or deliveries, please contact:

Office: 804-829-2450

For technical information, please contact:

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Call us with questions! Ask about prices and discounts for the best seed and seed treatments for your farm.



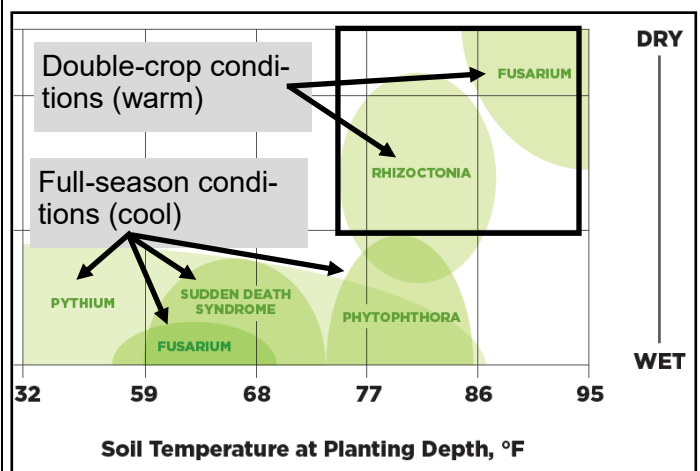
RenPro™ Soybean Seed Treatments from Renwood Farms

The above-ground portion of the soybean plant is just the scoreboard. All of the action takes place beneath the soil, beginning at germination. The bigger and healthier the roots, the more nodulation will take place. Bigger and healthier roots also give more sites for roots to feed the microbes in the soil. These microbes in turn provide the plant with nutrients and protection from soil-born pathogens. This is the key for higher yields.

Renwood Farms created the **RenPro™** family of soybean seed treatments. These seed treatments provide soybean growers with:

- Cleaner seeds as they remove fungal pathogens carried on the seed from last season
- Protection from soil fungal pathogens in cool, wet, dry or warm soil conditions (see graph)
- Molybdenum to regulate nitrogen uptake and utilization and enhance disease resistance
- Protection from above and below ground insects
- Biological microbes to stimulate plant growth and protect roots from soil pathogens
- Nematode protection

The top chart at right is the best we know to illustrate the value of **RenPro™** soybean seed treatment. Growers plant over a variety of soil moisture and temperature conditions. While most seed treatments focus on cold and wet conditions, **RenPro™** is made to handle wide temperature and soil moisture swings. The fungal pathogens that damage soybean plants are different in cold soils compared to warm soils. **RenPro™** is the only soybean seed treatment to protect against different weather conditions.



RenPro Ace, a new treatment from Renwood for 2023, combines an established plant growth promoter plus a signaling stimulant to add more protection against root diseases.

rizNate® is an encapsulated biological seed inoculant providing bacteria that produce nitrogen-fixing nodules on soybean roots and several other bacteria and fungi to help protect from pathogens. These microbes also stimulate and enhance root growth and provide nutrients.

Bio-ST® is Renwood Farms seed treatment for soybean cyst and root-knot nematode protection and can be added to any seed treatment ordered.

USG soybean varieties treated with **RenPro™** seed treatments have produced more than other soybean systems in on-farm tests. Call us so we can demonstrate the value of the Renwood Farms Soybean Production System in your farming operation.