

## 2015 Soybean Variety News

### More Soybean Seed Options For Farmers

Renwood Farms is excited to offer **Progeny Soybean Seed** for sale in 2015. This is in addition to the USG soybean seed line-up. Progeny was started in Arkansas in 1997 in response to a need to supply high-yielding southern genetics for southern weather, southern soils and especially southern disease pressure.

Progeny shares Renwood Farm's vision that in order to increase farmer's yields and profits, strong disease packages must be incorporated into high-yielding genetic packages. Without solid resistance to diseases such as stem canker, Sudden Death, Cercospora and charcoal rot, yields will be limited regardless of genetic potential.

The variety we are most excited about is **Progeny P5213RY**. A MG5.2 soybean, this variety topped the Renwood Farms irrigated MG5 soybean plot in 2014 with a whopping yield of 81.0 bu./acre. It was the top yielding soybean in the 2013 VA Tech soybean variety trials (OVT) for full-season and double-cropped.

Renwood Farms has strengthened other options for soybean farmers by offering:

- Roundup Ready® trait (RR1)
- Genuity Roundup Ready 2 Yield® trait (RR2)
- Liberty Link® trait (LL)
- Conventional soybeans

**Ellis** is a new conventional release (non-Roundup Ready) soybean with a strong disease package including resistance to stem canker, Cercospora and Frogeye Leaf Spot (FLS). **Ellis** placed first in the VA Tech 2015 OVT full-season trials averaging better than 64 bu. /acre.

Some growers have found non-GMO markets, some growers can control weeds with conventional chemistry and some growers just want a break from Roundup Ready. **Ellis** is just another way Renwood Farms tries hard to offer growers options and choices to help meet individual goals.

### Roundup Ready Soybean Patent Expiration

With the Roundup Ready® trait coming off patent, growers purchasing Roundup Ready soybeans will no longer have to pay this trait/tech fee, resulting in a lower purchase price for certain USG soybean varieties. The average price reduction is around \$10 per unit for these **RR1 varieties** in 2015:

**USG 7384nRS**: very high yields in this MG3 STS soybean. Resistant to SCN Race 3 & 14. Medium height makes this semi-bushy bean very popular. For better soils.

**USG 74B58**: this large-seeded, STS, medium-short, tawny bean has high yield potential with disease resistance to SDS, Frogeye, stem canker with resistance to SCN 3 and 14. Very easy to harvest.

**USG 7495nRS**: Reliable bean with STS: Bushy stature with medium tall plant height. Good resistance to SDS and SCN 3 & 14. Has performed very well as a double-cropped bean for many years.

**USG 75Z38**: top yields in stress environments with this Root-Knot nematode resistant bean. Strong disease package with resistance to soybean mosaic virus, SDS, stem canker and frogeye. For north and south of the James River.

**USG 7553nRS**: for many years, the standard in a MG5 maturity STS soybean: a tough bean that will pleasantly surprise growers with impressive yields in a good year. Remarkable shatter resistance with an substantial disease package

All of these varieties have won or placed in the VA Tech Variety Trials in past years and all are capable of producing yields in excess of 60 bu. /acre.

While Renwood Farms recognizes and appreciates the value of the new RR2 soybean genetics, there may be situations where investments into older herbicides and seed treatments, especially for nematodes, can produce a higher return for a grower's investment.



## 2014 Renwood Farms Soybean Variety Trial Results

Brand	Variety	Maturity Group 4	Moisture	Yield
Progeny	P4510RYS	4.5	15.2	61.3
Pioneer	P46T21R	4.6	15.2	75.1
Asgrow	4632	4.6	15.1	60.2
USG	74A74RS	4.7	14.8	96.8
TA	4729RS	4.7	14.7	63.0
USG	74B81R	4.8	15.0	61.5
Progeny	P4850RYS	4.8	14.9	80.4
Pioneer	48T53R	4.8	14.8	71.7
USG	7495nRS	4.9	14.5	56.8
USG	74B94RS	4.9	14.4	84.7
Progeny	4900RY	4.9	14.5	60.6
Pioneer	P49T80R	4.9	14.6	73.1
Pioneer	49T24	4.9	14.7	69.3
Asgrow	4934	4.9	14.3	86.0
USG	74B81R	4.8	13.9	85.2
Avg. Yield				72.4
Brand	Variety	Maturity Group 5	Moisture	Yield
Pioneer	50T64R	5.0	14.1	77.4
Progeny	P5213RY	5.2	14.3	81.0
Pioneer	52T50R	5.2	14.5	56.8
Progeny	P5333RY	5.3	14.2	49.4
Asgrow	5332	5.3	14.1	68.5
Asgrow	5335	5.3	14.3	69.6
USG	75W44R	5.4	14.1	57.1
USG	7553	5.5	13.2	58.9
Progeny	P5555RY	5.5	13.5	67.7
Pioneer	P56T03R2	5.6	13.6	53.6
USG	75J90R	5.9	13.7	58.6
USG	76S22R	6.2	13.4	57.5
Avg. Yield				63.0

These are the results of the 2014 Renwood Farms Variety Trials. The results **were certified and harvested by independent parties**. The plots were planted on June 17th and were irrigated. The MG4 varieties averaged 72.4 bu. /acre while the MG5 beans averaged 63.0 bu. /acre.



## Renwood Farms Featured Varieties for 2015

Variety	Traits	RM	Notes
74A74RS	RR2, STS, N	4.7	<b>New for 2015!</b> This new variety is a rocket high-yielding STS bean with some resistance to Root-Knot nematode. Top yield in Renwood Farms 2014 Variety Trial at 96.8 bu. /acre. With excellent resistance to stem canker and above average resistance to Sudden Death Syndrome (SDS).
74B81R	N, RR2, STS	4.8	Top Yielding MG4 tawny soybean in full-season and double-crop VA Tech 2011 state-wide OVT: Yielded 81.9 in FS MG4 OVT at Warsaw. Very good stem canker resistance with above average resistance to FLS. Good shatter resistance.
74B94RS	RR2, STS, N	4.9	<b>New for 2015!</b> Finally, a high-yielding soybean in this maturity group with resistance to <b>Root-Knot nematode</b> ! Excellent resistance to stem canker with above average resistance to FLS and Sudden Death Syndrome. Produced 84.7 bu. /acre in irrigated Renwood Farms Trials in 2014.
Ellis		4.9	<b>New for 2015!</b> First new commercial release of a <b>conventional</b> soybean in several years. Top yield in 2015 VA Tech Soybean Full-Season Yield Trials. Excellent resistance to stem canker, FLS and Cercospora makes this a great choice for either full-season or double-cropped soybeans.
Progeny P5213RY	N, RR2	5.2	<b>New for 2015!</b> The top yielder in the 2013 VA Tech OVT trials at 64.6 bu. /acre combined full-season and double-cropped. The winner of the MG5 Renwood Farms Variety Trial at 81 bu. /acre. An excellent disease package: for light to medium soil types.
75W44R	N, RR2	5.4	<b>New for 2015!</b> High yields on lighter soil types. This bushy bean gives growers flexibility to plant in wide or narrow rows. Best stem canker resistant variety available with good resistance to FLS and Cyst nematode.
75J90R	N, RR2	5.9	Top yield in NCSU OVT 2-year trials; resistant to <b>Root-Knot nematode</b> and SCN Race 3: moderately resistant to SCN Race 14. Excellent resistance to Stem Canker and very good resistance to Cercospora and FLS: handles stress on light soils, produces very good yields on good soils.
76G10L	LL	6.1	Outstanding disease package in a Liberty Link variety. Excellent resistant to cyst nematode, stem canker, FLS and Sudden Death with above average to <b>Root-Knot nematode</b> .
76S22R	N, RR2	6.2	A <b>Root-Knot nematode</b> resistant soybean designed for the lighter soils of VA and NC. Above average yields in NC Trials in both May and June planting. A tawny bean with a medium height and semi-bushy growth type.

Also available for 2015: **Progeny P5555RY, Progeny P5960LLS, Progeny P6710RY and Progeny P7310RY**



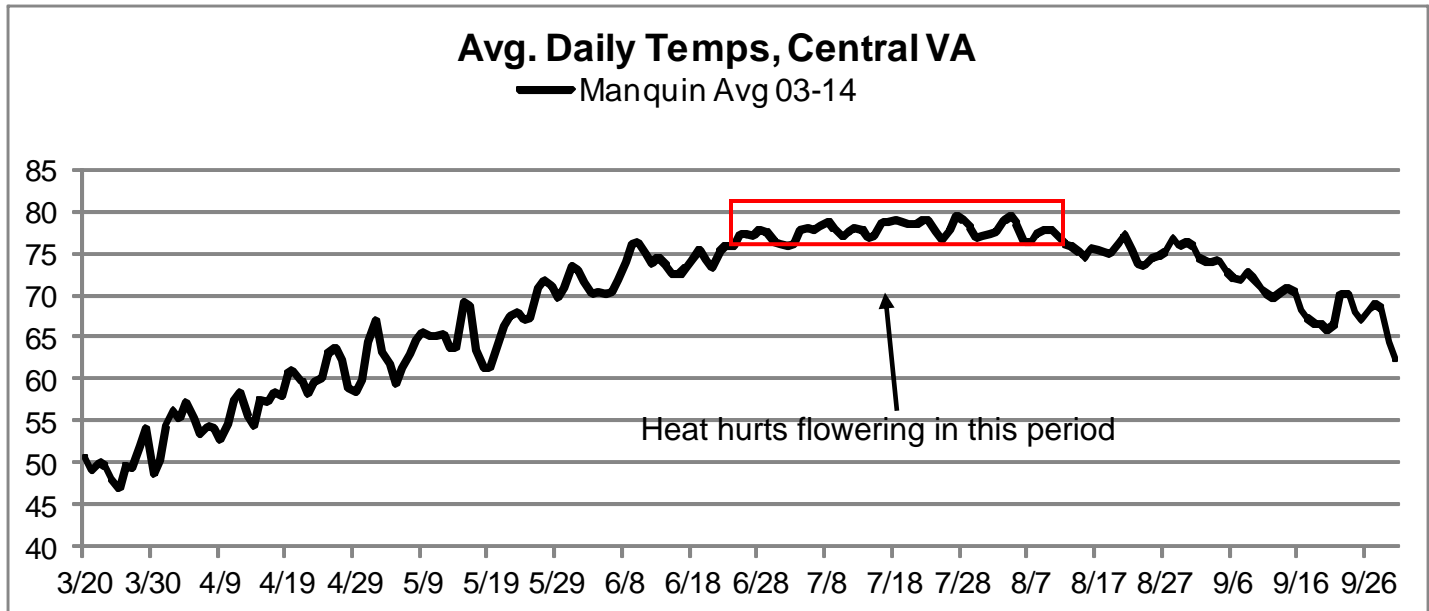
## Renwood Farms Soybean Seeding Rates

season	target stand plants /acre	Seed germ	initial seeding rate seeds/ acre	assumed stand loss	final seeding rate seeds/ acre	row spacing (inches)				\$/ 140K Seed Unit			
						7.5	15	20	30	\$38	\$44	\$52	\$58
						seeds per foot				cost/acre to plant			
Full Season	100,000	85%	117,647	5%	123,839	1.8	3.6	4.7	7.1	\$34	\$39	\$46	\$51
	100,000	90%	111,111	5%	116,959	1.7	3.4	4.5	6.7	\$32	\$37	\$43	\$48
	100,000	95%	105,263	5%	110,803	1.6	3.2	4.2	6.4	\$30	\$35	\$41	\$46
	100,000	85%	117,647	10%	130,719	1.9	3.8	5.0	7.5	\$35	\$41	\$49	\$54
	100,000	90%	111,111	10%	123,457	1.8	3.5	4.7	7.1	\$34	\$39	\$46	\$51
	100,000	95%	105,263	10%	116,959	1.7	3.4	4.5	6.7	\$32	\$37	\$43	\$48
	100,000	85%	117,647	20%	147,059	2.1	4.2	5.6	8.4	\$40	\$46	\$55	\$61
	100,000	90%	111,111	20%	138,889	2.0	4.0	5.3	8.0	\$38	\$44	\$52	\$58
	100,000	95%	105,263	20%	131,579	1.9	3.8	5.0	7.6	\$36	\$41	\$49	\$55
	100,000	85%	117,647	30%	168,067	2.4	4.8	6.4	9.6	\$46	\$53	\$62	\$70
	100,000	90%	111,111	30%	158,730	2.3	4.6	6.1	9.1	\$43	\$50	\$59	\$66
	100,000	95%	105,263	30%	150,376	2.2	4.3	5.8	8.6	\$41	\$47	\$56	\$62
Double Crop	125,000	85%	147,059	5%	154,799	2.2	4.4	5.9	8.9	\$42	\$49	\$57	\$64
	125,000	90%	138,889	5%	146,199	2.1	4.2	5.6	8.4	\$40	\$46	\$54	\$61
	125,000	95%	131,579	5%	138,504	2.0	4.0	5.3	7.9	\$38	\$44	\$51	\$57
	125,000	85%	147,059	10%	163,399	2.3	4.7	6.3	9.4	\$44	\$51	\$61	\$68
	125,000	90%	138,889	10%	154,321	2.2	4.4	5.9	8.9	\$42	\$49	\$57	\$64
	125,000	95%	131,579	10%	146,199	2.1	4.2	5.6	8.4	\$40	\$46	\$54	\$61
	125,000	85%	147,059	20%	183,824	2.6	5.3	7.0	10.6	\$50	\$58	\$68	\$76
	125,000	90%	138,889	20%	173,611	2.5	5.0	6.6	10.0	\$47	\$55	\$64	\$72
	125,000	95%	131,579	20%	164,474	2.4	4.7	6.3	9.4	\$45	\$52	\$61	\$68
	125,000	85%	147,059	30%	210,084	3.0	6.0	8.0	12.1	\$57	\$66	\$78	\$87
	125,000	90%	138,889	30%	198,413	2.8	5.7	7.6	11.4	\$54	\$62	\$74	\$82
	125,000	95%	131,579	30%	187,970	2.7	5.4	7.2	10.8	\$51	\$59	\$70	\$78

Renwood Farms soybean seed usually runs above 90% germination which lowers grower's seed costs. In Renwood Farms trials, lower final stands populations have produced more beans especially with the newer RR2 soybeans. Our recommendation is to plant less but use **RenPro** treatments to insure germination and aggressive early seedling growth.



## Weather and Heat Impact on Maturity Selection



The graph above shows the average daily temperature for Manquin, VA in Central Virginia. These temperatures are averaged from 2003 to 2014. The data comes from one of the satellite weather stations that **ag.systems**, a private research company, supplies to Renwood Farms.

Average daily temperatures greater than 76F puts stress on soybeans, especially when flowering. Even when irrigating, heat can cause flower abortion. Flower abortion means fewer pods per node. Heat stress will cause more one or two bean pods, especially when coupled with dry weather. The high heat usually lasts from about 6/21 to 08/12 in Central VA.

In our view, there are two options for **dryland** soybeans: plant a late MG3 or early MG4 between April 15 and May 5 to **outrun the heat** or plant a MG5 or even MG6 in May to **outlast the heat** by flowering after the high heat period.

**Planting Early:** the obvious problem with planting early is worry about a late frost. A second problem is that we all remember those early June days that have reached 100F in some years. Long periods of dry weather, although not usual, can occur in late May and early June. Generally, MG3 and MG4 varieties do not handle stress very well. Genetically, they have higher yield potential than MG5 but they are bred to

race and do not recover well after periods of severe stress.

**Planting Late:** when planting after May 5, most MG 5 or MG6 soybeans will flower around the very end of July or early August when, in most years, the temperatures have begun to “cool” at night. It is still plenty hot but just not as oppressive.

MG5 and 6 are more suited to handle stress periods with an ability to recover and even re-flower after stress. Planting MG4 varieties in Mid-May generally results in flowering in July which is right smack in the middle of the heat which can increase flower abortion. Growers can plant MG5 or MG6 soybeans safely through Mid-June. Planting these MG after that date increases the chances for frost before maturity.

Growers in Southeast VA and most of NC can plant MG5 and 6 or even MG7 or 8 through June and even into early July since the heat in these areas lasts into early September and fall frost is not an issue.

For most of Virginia, switching back to a MG3 or MG4 for double-cropped soybeans after June 15 makes sense since they flower in Mid-August under cooler temperatures, hopefully receive some tropical rains and will mature prior to most frost dates.





## Disease Impact on Variety Selection

It seems like we beat this to death every year but as in previous years, there were many, many fields of soybeans where yields were reduced by soybean diseases. In these photos, we are showing the three most common soybean disease problems in 2014: stem canker, cyst nematode and Sudden Death Syndrome.

Stem canker is found most frequent on better soils, soils with slow/poor drainage and/or under irrigation. There is no fungicide that will control this disease so selecting a resistant variety is the only defense against this pathogen. Plants die prematurely and uneven ripening at maturity is a clue to its presence in a field.

Both the Soybean Cyst nematode and the Root-Knot nematode remains our biggest concern for soybean production in Virginia and North Carolina. It is hard to believe that economic threshold damage begins when only one cyst sac is found on soybean roots. In the photo at right, each of the little white dots on the roots is one female cyst sac. There are over two dozen in this photo.

Unfortunately, there are 16 “races” of cyst nematode and selecting a variety that has resistance to the specific nematode or nematodes in a given field remains challenging.

Selecting for Root-Knot nematode (RKN) is not as challenging. Most RKN resistant varieties have been found in MG 5 (late), 6 or 7 varieties. Now this resistant can be found in late MG4 soybeans.

Poncho/Votivo® seed treatment reduced nematode populations again in Renwood plots in 2014. The populations were still high proving that this treatment is not a silver bullet but is effective at reducing populations. RKN have been removed as limiting factors after four years in fields when using Poncho/Votivo combined with resistant varieties.

Sudden Death Syndrome (SDS) is thought to be caused by a fusarium fungi and almost always occurs in the presence of cyst nematodes. In 2014, there were several incidents of brown stem rot (BSR) in the wetter areas of the state. Foliar symptoms look identical and in both cases, resistant varieties are the only way to prevent. BSR is not normally found in this part of the world but with the overall cooler summer in 2014, it was fairly common. Both diseases can lower yields by 50%.





## USG Soybean Seed Featured Varieties: 75J90R and 74B94RS

No question that there are two USG soybean varieties that have a super fit in the Mid-Atlantic market.

The first is USG 75J90R a MG 5.9 that performed on sandy soils, heavier soils and under irrigation in 2014. For dryland, one entry of 83 bu. /acre was entered into the VA State Soybean Yield Contest.

This bean is designed to fit into multiple soil conditions. It has an excellent disease package including resistance to SDS, FLS, stem canker and cercospora. It is resistant to Root-Knot nematode and SCN Race 3 and 14. It stands well for harvest.

The second featured variety is USG 74B94RS. This is **only** MG4 soybeans with resistance to Root-Knot nematode with high yield potential as it turned in a 84.7 bu. /acre performance in the Renwood Farms Trials in 2014. It has resistance to stem canker and is stacked with STS trait for more options in weed control.



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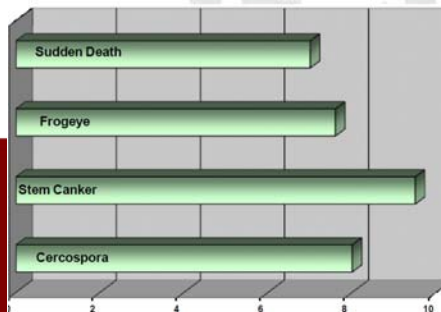
### USG 75J90R

Agronomic Traits		Strengths
Maturity	5.9	<ul style="list-style-type: none"> <li>• Top yield in NCSU OVT 2-year tests</li> <li>• <b>Resistant to Root Knot Nematode</b></li> <li>• Resistant to SCN Race 3, moderately resistant to SCN Race14</li> <li>• New RR2 technology</li> <li>• Stands well for easy harvest</li> <li>• Excellent May and early June planted soybean</li> </ul>
Pubescence	Gray	
Flower	Purple	
Hilum	Imperfect Black	
Pod	Tan	
Growth Type	Semi-Bushy	
Growth Habit	Determinate	
Height	Medium	

#### Disease Characteristics

0 - Poor

10 - Excellent



The ratings included on this page represent averages taken from field observations. Differences may occur due to environmental conditions and soil types. Please consult with an area specialist or extension agent before making your final seed purchase decisions.

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Soybeans



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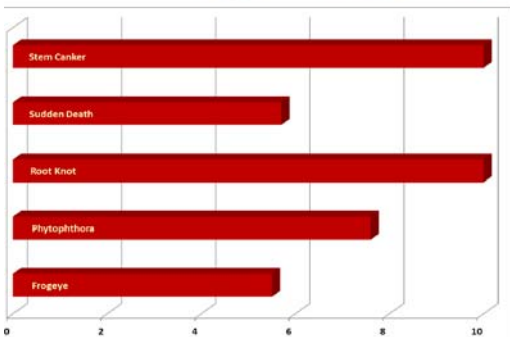
### USG 74B94RS

Agronomic Traits		Field Ratings	
Maturity	4.9	Shatter Resistance	1.9
Pubescence	Gray	Standability	2.0
Flower	Purple	Emergence	1.0
Hilum	Imperfect Black	Seeds/Lb.	2,700
Pod	Tan	<b>1-Excellent to 5-Poor</b>	
Growth Type	Bushy	Strengths	
Growth Habit	Indeterminate	<ul style="list-style-type: none"> <li>• Rps1C Phytophthora Gene</li> <li>• Stacked STS and RR2</li> <li>• RKN Resistant</li> </ul>	
Height	Medium		

#### Disease Characteristics

0 - Poor

10 - Excellent



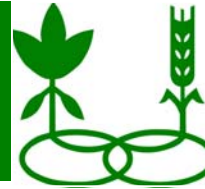
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Renwood Farms soybean seed harvest: timely harvest produces stronger seed!

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## RenPro Soybean Seed Treatments from Renwood Farms

**RenPro** and **RenPro Plus** soybean seed treatments promote rapid early growth and protect roots from harmful pathogens. This aggressive early growth shades the ground to reduce weed competition and conserve soil moisture to produce higher yields.

**RenPro** soybean seed treatment contains four fungicides to help prevent pathogen resistance. These fungicides protect the seed and seedlings against the diseases in cool, moist soils when planting early and the diseases that stress plants in hot soils when planting double-cropped.

**RenPro Plus** contains a seed insecticide in addition to the four fungicides. Adding a seed insecticide provides early-season protection from thrips and bean-leaf beetles which stunt plants. In double-crop beans, this treatment provides a growth stimulant effect for quick emergence and shading.

**RenPro** seed treatments contain **molybdenum**. Molybdenum is the single most limiting micronutrient in VA and NC soybean production. Low plant moly levels can reduce yields by 50%. Adding moly to the seed treatment is the least expensive way to correct this problem.

**RizNate®** is a Bio-Primed Inoculant (BPI) biological powered by probiotic microbes that are applied to seed to biologically protect, stimulate and enhance the seed's growth genetics and can be added with all RenPro seed treatments.

**RizNate®** is an encapsulated seed inoculant providing *bacteria that produces nitrogen-fixing nodules* on soybean roots but also contains a balance of several other free living micro-organisms.

2013: Suffolk, VA : Planted July 10, 2013			
Brand	Var.	Treatment	Yield Bu. / acre
USG	75Z38	RenPro Plus RizNate & Votivo	55
USG	75Z38	RenPro Plus	50
USG	75Z38	Untreated	47
Lynchburg Fine Sandy Loam: 70% sand			

2013 Seed Treatment Plot: King William Co. VA	
Variety: USG 74D32R Planted 07/03/13	
Seed Treatment	Bu. /A
RenPro Plus RizNate	51
Untreated	47
Apron/ Max	46

**RizNate®** protects the seed from pathogens outside the seed while promoting growth inside the seed. These microbes allow the seed to more efficiently uptake nutrients needed to support a healthy growing environment for seed and seedling development.

**Votivo®** is a seed treatment used to reduce nematode populations and damage during early growth. It is the only proven seed treatment available today, seed treatment or otherwise, to limit nematode damage. Votivo can be ordered with **RenPro Plus** soybean seed treatment.