

# SOYBEANS

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### Rating

- 1 = Excellent
- 2.5 = Very Good
- 5 = Unacceptable
- NR = Not Rated

### Phytophthora Root Rot Resistance

- Rps1a = denotes resistance to races  
1, 2, 10, 11, 13, 14, 15, 16, 17, 18, 24, 26, 27, 31, 32, 36, 38
- Rps1c = denotes resistance to races  
1, 2, 3, 6, 7, 8, 9, 10, 11, 13, 15, 17, 21, 23, 24, 26, 28, 29, 30, 32, 34, 36, 38
- Rps1k = denotes resistance to races  
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 21, 22, 23, 24, 26, 36, 37, 38
- N = No Resistance

**Soybeans available in 40 bu. bulk bags (140,000 seeds), or 50 lb. paper bags.**

**Ask your dealer about availability and costs of treated soybeans.**

**No soybean seed returns accepted.**

## Roundup Ready Soybeans Simple • Flexible • Dependable

### Taking complexity and worry out of soybean production.

Perfect for reduced or no-till operations, Roundup Ready Soybean varieties contain in-plant tolerance to Roundup agricultural herbicides. Just spray over the top from emergence through flowering for simple, flexible and dependable weed control, proven crop safety and maximum yield potential.

### Apply Roundup When You Need To.

Roundup Ready Soybeans provide the flexibility to make applications when you need to. You can consistently achieve excellent weed control and maximum yield potential with the Roundup Ready Soybean System. It's one great advantage that keeps farmers coming back year after year.

### More time to spend where you need it most.

With the Roundup Ready Soybean System, you'll be able to take advantage of unsurpassed weed control, time savings and flexibility. The Roundup Ready System takes the guesswork out of application and makes weed control a snap—even with reduced tillage.



[www.kussmaulseeds.com](http://www.kussmaulseeds.com)

## Roundup Agricultural Herbicides and Asian Soybean Rust Management

Glyphosate has been shown to have activity against Asian soybean rust. Monsanto is evaluating the potential for Roundup agricultural herbicides to manage the disease. However, additional research and development is needed to determine whether glyphosate could provide sufficient levels of Asian Rust control as part of an Asian Rust management program; then EPA approval of directions for use and product labels must be obtained.

Since Asian Rust typically requires management at later stages of soybean development, Monsanto wants to emphasize that growers must not delay Roundup agricultural herbicide applications into reproductive soybean growth stages in an attempt to gain additional rust management value.

Monsanto has revised language – not made a change in use recommendations – on Roundup agricultural herbicide labels and in the Technical Use Guide to emphasize the approved application window for Roundup agricultural herbicide use with Roundup Ready Soybeans.

Current language states that Roundup agricultural herbicide applications may be made to Roundup Ready Soybeans throughout flowering. New language incorporates generally accepted soybean growth stage terminology to define “flowering” and emphasize that applications may be made through the R2 stage of growth ending when the R3 stage begins [a pod 5 millimeters (3/16 inch) long appears at one of the four uppermost nodes on the main stem with a fully developed leaf]. Applications made beyond the R2 stage of soybean growth are not labeled uses.

Monsanto will continue to fully evaluate the activity of glyphosate against Asian soybean rust and research potential commercial uses.

**Glyphosate is not currently registered or labeled for fungicidal use.** *It is a violation of federal law to use a pesticide in a manner inconsistent with labeling.* Growers should consult local retailers about labeled fungicides and recommendations for Asian soybean rust control and prevention.

I. PNAS Article: Glyphosate inhibits rust diseases in glyphosate-resistant wheat and soybean. Paul C. C. Feng, G. James Baley, William P. Clinton, Greg J. Bunkers, Murtaza F. Alibhai, Timothy C. Paulitz, and Kimberlee K. Kidwell - Monsanto Biotechnology Research, St. Louis, MO 63017; Department of Crop and Soil Sciences, Washington State University, Pullman, WA 99164-6420; and Root Disease and Biological Control Research Unit, Agricultural Research Service, U.S. Department of Agriculture, Pullman, WA 99164-6430; PNAS (Proceedings of the National Academy of Sciences) 2005 102: 17290-17295; published online before print November 17 2005, 10.1073/pnas.0508873102



## Benefits of New Seed

### Convenience:

- High quality and high yield potential product vs. bin-run
- Meets quality standards of seed company
  - Professionally handled and rigorously tested
    - Dramatically reduces splits and foreign matter
    - Ensures varietal purity
  - Germination tests to help peace of mind
  - Weed-free
- Reliable seed supply in many maturities
- Access to the most elite germplasm

### Economics of New Seed vs. Bin-Run

- Income lost by not selling as commodity grain (e.g. 1 bushel of bin-run seed multiplied by the price of a soybean bushel)
- Average loss of ~10–15% cleanout at harvest for bin-run seed
- Handling and transportation costs for bin-run (approx. \$.35–\$.75/bushel)
- Bin-run planting rates are generally 15% higher than new certified seed
- New seed yields an average of 1.8 bushel/acre more than bin-run (university yield trials range from 1.2–5.9 bushel/acre)

### Limited Warranty Benefits

- Dealer agronomic support before and after the sale
- Risk management benefits of Roundup Rewards® (over \$600 million paid to farmers since 1997)

### New Innovations

- Royalties provide research and development of new traits and higher yielding germplasm
- Monsanto invests over \$700 million per year on research and development
- Monsanto is 100% committed to agriculture
- New trait introductions
  - 7–9 years for commercialization
  - \$50–\$100 million in total costs for a new biotech trait
- Seed companies and Monsanto are committed to our customers' success

## Mysterious IDC

### The Product of Many Factors

The causes of iron deficiency chlorosis (IDC) in soybeans are not fully understood. Chlorosis is the product of complex interactions among many factors, including soil chemistry, environment and soybean physiology and genetics, says retired soil nutrient specialist George Rehm of the University of Minnesota. "This complexity explains why there is no easy answer to the problem."

Iron is actually abundant in most soils, and plants need only a small amount. But soybeans are inefficient at absorbing and using iron. When the soil contains a lot of lime, or carbonates, the iron gets tied up in non-soluble forms and becomes even less available to soybeans. High concentrations of salts and excessive moisture exacerbate the difficulty. "In general," says Jay Goos of North Dakota State University, "the wetter the soil, the worse IDC is; the more lime in the soil, the worse it is; the more salts, the worse it is."

The weather plays a big role, too. In many areas, iron chlorosis is a problem only in wet years. In northwestern Minnesota and eastern North Dakota, however, IDC shows up most seasons, says Crookston grower Kevin Capistran. "As soon as the soil turns wet, you'll see some symptoms of chlorosis."

Other factors increase IDC severity, including cold soil temperatures, soybean seedling diseases and post-emergent herbicides. Chlorosis may also be associated with higher soil nitrate levels, Rehm says. That's one theory behind the mysterious green wheel tracks.

Source: Corn and Soybean Digest Dec 07



## Pounds of Soybean Seeds Per Acre

Planting Rate Seeds/Acre	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700
80,000	35	33	32	31	30	29	28	27	26	25	24	24	23	22	22
95,000	41	40	38	37	35	34	33	32	31	30	29	28	27	26	26
110,000	48	46	44	42	41	39	38	37	35	34	33	32	31	31	30
130,000	57	54	52	50	48	46	45	43	42	41	39	38	37	36	35
140,000	61	58	56	54	52	50	48	47	45	44	42	41	40	39	38
150,000	65	63	60	58	56	54	52	50	48	47	45	44	43	42	41
160,000	70	67	64	62	59	57	55	53	52	50	48	47	46	44	43
170,000	74	71	68	65	63	61	59	57	55	53	52	50	49	47	46
180,000	78	75	72	69	67	64	62	60	58	56	55	53	51	50	49
190,000	83	79	76	73	70	68	66	63	61	59	58	56	54	53	51
205,000	89	85	82	79	76	73	71	68	66	64	62	60	59	57	55
220,000	96	92	88	85	81	79	76	73	71	69	67	65	63	61	59

# SOYBEANS

0.5-2.8 RM

Brand	Relative Maturity	Technology**	SCN	Height	Phytophthora Resistance	Phytophthora Tolerance	Plant Type	Estimated Seed Size	Pubescence
KS-2805RR	0.5	RR	LR1	31"	RCIC	1.7	Med-Bushy	4200	Light Tawny
KS-2809RR	0.9	RR	LR4	33"		1.8	Med-Bushy	3000	Light Tawny
KS-2812RR	1.2	RR		32"	RGIK	1.8	Med-Bushy	3100	Light Tawny
KS-2815RR	1.5	RR		32"		1.9	Med-Bushy	2900	Light Tawny
KS-2817RR	1.7	RR		34"	RGIK	1.9	Med-Bushy	2750	Light Tawny
<b>NEW</b>	<b>KS-19-N</b>	<b>1.8</b>	<b>LR3</b>	<b>32</b>	<b>1.6</b>	<b>Bushy</b>	<b>3600</b>	<b>Light Tawny</b>	
KS-2721RR	2.1	RR	LR3	32"	RGIK	1.8	Med-Bushy	2850	Light Tawny
KS-2823NRR	2.3	RR	LR3	32"	RGIK	1.8	Med-Bushy	3200	Light Tawny
KS-2827NRR	2.8	RR	LR3	36"	RGIK	1.5	Med Bushy	3000	Light Tawny

## KS-2805RR



### 0.5 Maturity

- Superb standability for easier harvest
- Very attractive, tawny color
- Has out yielded Asgrow's AG0301 by 20% and Pioneer's P90M90RR by 15%
- Very solid defensive line that excels in northern WI, MN and ND
- Medium height with strong branching tendency

## KS-2809RR



### 0.9 Maturity

- High yielding soybean line that out performs R0514 by 18% and Pioneer's P90M90 by 16%
- Great defensive traits, including strong tolerance to Brown Stem Rot and *Phytophthora* Root Rot
- Seed size tends to run a little larger
- Strong emergence helps this line in no-till soils
- Use in WI, MN, ND, SD

## KS-2812RR



### 1.2 Maturity

- High yielding line that is stable over a wide geographic region
- Has the K gene for good field tolerance to *Phytophthora* Root Rot
- Strong defense against Brown Stem Rot and White Mold
- Med-Bushy plants allow wider range of row width options
- Excellent no-till choice for WI, MN, SD and ND
- 12% yield advantage over Asgrow's AG0801
- Better standability than P91B33RR

## KS-2815RR



### 1.5 Maturity

- We feel this line maybe the new yield champion in this maturity!
- In testing last year, out yielded all competitors by 8%, including DK15-51
- Very attractive bean with excellent standability
- Adapts well across the Midwest including MI, WI, MN, IA and SD
- Super Brown Stem Rot and *Phytophthora* Root Rot scores

## KS-19-N



### 1.8 Maturity

- High yielding conventional line with Nematode protection
- Excellent White Mold and Brown Stem Rot scores
- Small seeded variety, full bushy type plants
- 2008 yield data, 306 plots, beat S18-NS by 2.9 bu.
- Beat Asgro's A1923, 160 plots, by 4.2 bu.
- Medium-tall plants with good pod height
- Exhibits excellent *Phytophthora* Root Rot protection
- Beats P91B53 by 12%



Brown Stem Rot Score	Iron Deficiency Chlorosis	Sclerotinia White Mold	Emergence Score	Standability	Protein/Oil	Patent No./Status	Variety Number	Brand
MR 1.9	1.9	2.5	2.1	1.7	38.2/22.4	Pending	60079	KS-2805RR
MR 1.65	2.3	2.2	1.8	2.2	39.6/22.2	Pending	60609-59	KS-2809RR
MR 1.65	2.5	1.7	1.8	1.6	39.7/21.0	Pending	60680	KS-2812RR
I.25	2.4	3.0	1.5	1.4	40.4/20.2	Pending	60050	KS-2815RR
R 1.15	2.4	2.4	1.6	1.7	40.4/20.7	Pending	60000	KS-2817RR
<b>MR 1.95</b>	<b>2.8</b>	<b>0.9</b>	<b>1.8</b>	<b>1.8</b>	<b>41.0/20/3</b>	<b>Pending</b>	<b>77123-19</b>	<b>KS-19-N</b>
R 1.15	2.4	2.0	1.6	1.5	40.8/21.2	Pending	66080	KS-2721RR
MR 1.6	2.7	1.7	1.7	1.5	41.2/21.1	Pending	66080-95	KS-2823NRR
2.25	2.5	3.0	2.0	1.5	40.1/20.4	Pending	60006	KS-2827NRR

### KS-2817RR



#### Early 1.7 Maturity

- Contains the K gene for good *Phytophthora* tolerance
- Excellent resistance to Brown Stem Rot
- Has consistently shown high yields all through testing by out yielding DeKalb's DK15-51 by 10% and Asgrow's AG1702 by 2%
- Standability is very strong
- Great protein to oil ratio
- Use WI and west through its maturity zone

### KS-2721RR



#### 2.1 Maturity

- This is the only soybean to remain in our lineup because we can't find a better bean in this maturity
- Excellent tolerance to – SCN, Bean Beetles, Sudden Death Syndrome, White Mold, Brown Stem Rot and *Phytophthora* Root Rot
- Performs in a wide geographic zone from IN to NE
- Extremely strong emergence and standability scores
- An equally great defensive, as well as offensive line

### KS-2823NRR



#### 2.3 Maturity

- In testing, this new line took the top yields in several state trials, including northern IL, northern and central IA
- Defensive traits aggressively stop Sudden Death Syndrome, Bean Beetle feeding and Soybean Cyst Nematode damage
- Continues to produce top yields as it moves south into the late II and early III zones
- Out yields lines such as Pioneer's 92B38 and Asgrow's AG2205
- Yields equally well from OH west to CO and southern WI down to central IL

### KS-2827NRR



#### 2.8 Maturity

- In the Late Group II, Early Group III zone—Look out growers, cause we've got a winner here!
- Excellent standability
- Tolerance to Soybean Cyst Nematode Race III
- Very strong *Phytophthora* tolerance of 1.5 and has the K gene
- Out yields Pioneer's P92B74 and P92B38 by 12% and DeKalb's DK 26-52NRR by 8%
- This new line brings top yields, excellent standability, great disease protection and excellent protein to oil ratio