### **Pioneer**<sup>®</sup> brand Soybean Varieties

Variety/Brand**	Relative Maturity	Herbicide Resistance	Harvest Standability	Field Emergence	Hypocotyl Length	Phytoph. Resist. Gene	Phytoph. Field Tol.	Brown Stem Rot	Iron Def. Chlorosis	White Mold	Sudden Death Syndrome	SCN Resistance Source	Aphid Antibiosis	Frogeye Leaf Spot	Canopy Width	Plant Height for Maturity	Shattering	Seed Size Range	U.S. Germplasm Patent Status	Drought-Prone Soils	Early Planting/ Cool Soils	High PH Soils	High Residue	Highly Productive Soils	Poorly Drained Soils	SCN-Prone Environments	White Mold-Prone Environments
	Characteristics, Disease and Suitability Ratings																										
P19T01r*	19	RR	8	9	L	1k	3		6	5	5	PI88788	А		6	5	8	2500-2900	I	S	S	S	HS	HS	MA	HS	S
P21T97R*	21	RR	7	9	L	1k	4		7	3	6	PI88788	А		6	7	8	2500-2900	I	S	HS	HS	HS	S	HS	HS	Х
92Y22	22	RR	8	7	L	1k	4	7	3	6	5	PI88788	А	9	5	6	8	2800-3800	I	S	HS	MA	S	HS	S	S	S
P22T69R*	22	RR	8	7	L	1k	5		5	6	6	PEKING	AA	9	6	5	8	2700-3100		S	HS	S	S	HS	HS	HS	HS
92Y32	23	RR	7	7	L	1c	5	8	3	5	6	PI88788	А	7	7	7	8	2500-3100		S	HS	MA	S	HS	S	S	S
P24T19r*	24	RR	7	7	М	1k	6		6	4	6	PI88788	А	7	6	6	8	2700-3100		S	S	HS	S	HS	HS	HS	S
92Y51	25	RR	7	8	L	1k	4	7	4	6	7	PI88788	А	8	4	7	8	2550-3050	Ι	S	HS	S	HS	HS	S	HS	HS
P25T51R*	25	RR	7	7	L	1c,3a			4	3	5	PI88788	А	5	6	4	8	2600-3000		S	S	S	S	HS	S	HS	Х
92Y74	27	RR	8	7	L	-	4	5	5	6	5	PI88788	BA	8	6	4	8	2600-3100		MA	S	HS	S	HS	S	HS	HS
92Y75	27	RR	7	7	L	1k	4	8	4	5	6	PI88788	BA	7	6	6	8	2650-3150		S	S	S	S	HS	S	S	S
P28T33R*	28	RR	7	7	L	1k	5		3	4	7	PI88788	AA	8	6	5		2800-3200		S	S	Х	S	HS	S	HS	S
P29T98 <sub>R</sub> *	29	RR	7	7	L	1k	5		6	6	7	PI88788	BA		6	6		2700-3100		S	S	HS	S	HS	S	HS	HS
93M11	31	RR	8	7	L	1k	4	6	4	6	6		А	9	5	5	8	2750-3250		S	HS	S	HS	HS	S	Х	HS
93Y22	32	RR	7	7	L	1c	5	7	4	6	5	PI88788	А	7	5	6	8	2850-3350		S	S	MA	S	HS	S	S	S
Conventio	nal V	arie	ties																								
92M10	21	-	7	8	L	1c	6	5	5	4	2		А	7	6	7	8	2550-3050		S	S	S	HS	HS	HS	Х	S
92Y21	22	-	7	8	М	1k	5	6	4	4	7	PI88788	А		6	6	9	2600-3100		HS	S	HS	S	S	HS	HS	
92M72	27	-	8	8	L	1k	5	9	5	4	5		BA	8	6	6	9	2450-2950		S	HS	S	HS	HS	HS	Х	MA

#### \*NEW product.

\*\* All Pioneer products are varieties unless designated with LL, in which case some are brands.

Trait ratings provide key information useful in selection and management of Pioneer\* brand products in your area. Scores are based on period-of-years testing through 2012 temperatures. **1-3** = Below Average; **4-6** = Average; **7-9** = Excellent. harvest and were the latest available at time of printing. Some scores may change after 2013 harvest. Contact your Pioneer sales professional before planting for the latest trait (-) = No specific gene for resistance.

**IMPORTANT:** Information and ratings are based on comparisons with other Pioneer prand products, not competitive products. Information and ratings are assigned by uPont Pioneer Agronomists and Research Managers, based on average performance across area of adaptation under normal conditions, over a wide range of both climate and soil types, and may not predict future results. Product responses are variable and subject to any number of environmental, disease and pest pressures. Please use this information as only part of your product positioning decision. Refer to www.pioneer com/products or contact a Pioneer sales professional for the latest and most complete isting of traits and scores for each Pioneer brand product.

tested for that particular trait.

**RELATIVE MATURITY:** Shows the relative maturity group rating, with the first digit representing the general maturity group, and the second digit showing relative maturity within the group on a scale of 0 to 9, with 0 early and 9 late. For example, a soybean product with a relative maturity rating of 17 would be a mid-late product in Group 1



HERBICIDE RESISTANCE: Products with the original Roundup Ready<sup>®</sup> (RR) technology are resistant to labeled glyphosate herbicides

technology allows for post-emergent applications of glyphosate herbicide thout crop iniury or stress (see herbicide label). Labeled glyphosate herbicides should only be used over the top of those products that carry the Roundup Ready gene designation, NOTE: A soybean product with a herbicide resistance trait does not confer resistance to all herbicides. Spraying herbicides not labeled for a specific soybean PI437654 (also known as Hartwig) product will result in severe plant injury or plant death. Always read and follow herbicide label directions.

Roundup Ready<sup>®</sup> is a registered trademark used under license from Monsanto Company. (-) = Product does not contain a herbicide resistant gene.

HYPOCOTYL LENGTH: Ratings based on relative length of hypocotyls, which is the portion of the seedling between the cotyledons and the root. S = Short; M = Medium; = Lona.

FIELD EMERGENCE: Rating based on speed and strength of emergence in sub-optimal

PHYTOPHTHORA RESISTANCE GENE:

1c = Provides resistance to races 1-3, 6-11, 13, 15, 17, 21, 23, 24, 26, 28-30, 32, 34, 36. **1k** = Provides resistance to races 1-11, 13-15, 17, 18, 21-24, 26, 36, 37. **6** = Provides resistance to races 1-4, 10, 12, 14-16, 18-21, 25, 28, 33-35. **3a** = Resistant to races 1-5. 8-9. 11, 13-14, 16, 18, 23, 25, 28-29, 31-35, 39-41, 43-45. **PLANT HEIGHT FOR MATURITY: 9** = Tall: **1** = Short.

47-52 54 **PHYTOPHTHORA FIELD TOLERANCE:** Products with high tolerance scores have demonstrated an ability to thrive in the presence of Phytophthora races to which they lack specific resistance. In some products, tolerance is expressed only after the early seedling growth stage, making such products susceptible to damping off during emergence and early seed growth

NUMERIC RATINGS: 9 = Excellent; 1 = Poor; Blank = Insufficient Data or product not U.S. GERMPLASM PATENT STATUS (as of 12/1/12): I = Patent issued; A = Patent applied for. Pioneer brand soybean products protected by patents or containing a patented gene or trait are licensed to a purchaser solely for the purpose of producing a single commercial crop.

> WHITE MOLD: Scores based on DuPont Pioneer research observations of comparative white mold tolerance among various soybean products across multiple locations and years. All products are capable of developing white mold symptoms under severe infestations. To our knowledge, there are no totally resistant products in the industry. However, differences exist in the ability of products to tolerate white mold (i.e., the rate at which the infection develops and the extent of damage it causes). These scores reflect those differences

> SCN RESISTANCE SOURCE: There are three sources of genetic resistance to SCN currently deployed in the marketplace: PI88788; PI548402 (also known as Peking); and

> **SOYBEAN CYST NEMATODE [SCN]:** Resistance to each of the major SCN races is scored on a 1-9 scale. 9 = Excellent resistance; 8-7 = Very good resistance; 6 = Good resistance; **5** = Average resistance; **4** = Below average resistance; **3-2** = Susceptible;  $\mathbf{1} =$  Highly susceptible; to the specific race indicated;  $\mathbf{R} =$  Preliminary data indicates resistance to Race 3 SCN

APHID ANTIBIOSIS: A type of resistance that measures the plant's ability to naturally reduce the rate of growth, survival and reproduction of soybean aphids on soybean plants. Antibiosis is measured by comparing the rate of aphid reproduction on different products. Since no products currently on the market offer complete resistance to aphids, growers should use these antibiosis ratings as a pest management tool (not a product selection tool) to help determine field scouting and insecticide application priorities. "E" = exceptional, "AA" = above average, "A" = average and "BA" = below average antibiosis ratings. For example, products with exceptional ratings display much lower aphid reproduction compared to products with average and below average ratings **CANOPY WIDTH: 9** = Extremely bushy: **1** = Very narrow

**SHATTERING: 9** = Excellent tolerance to shattering; **1** = Poor tolerance to shattering.

SEED SIZE RANGE: Expressed in seeds per pound under normal growing conditions. Range is calculated over multiple years and locations. Since seed size may vary by growing season and region, check the "seeds/pound" information printed on the bag for actual seed count

**Note:** U.S. patents, Plant Variety Protection Act (PVPA) applications and certificates. or other limitations on use may be used to protect Pioneer brand soybean products from unauthorized growing, selling or use of the seed. These protections help assure that growers will continue to have access to new and improved products through the research efforts of plant scientists in the years ahead. Refer to the seed bag, bag tag and invoice for additional information specific to each variety regarding U.S. patent or PVPA protection and for other limitations on use.

SUITABILITY RATINGS: HS – Highly Suitable; S – Suitable; MA – Manage Appropriately: X – Poorly Suited, Suitability ratings are based upon historical field observations and analysis of traits by DuPont Pioneer agronomists and research scientists and may not predict future results. Product responses are variable and subject to any number of environmental, disease and pest pressures. Please use this information as part of your product positioning decision. Trait scores are based upon period-of-years testing against other Pioneer<sup>®</sup> brand products. Scores are assigned from research data across a wide range of climates and growing conditions and were the latest available at the time of printing. Refer to www.pioneer.com or contact a Pioneer sales professional for the latest and most complete listing of traits and scores for each Pioneer brand

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# **MAKE THE** MOST **OF EVERY** ACRE.

PIONEER® BRAND PRODUCTS FOR NORTHEAST IOWA



## **Pioneer® brand Corn Products\*\***

Hybrid/ Brand***	Technology Segment	Hybrid Family	Market Segment	CRM	Silk CRM	Stalk Strength	Root Strength	Stress Emergence	Staygreen	Drought Tol.	Ear Flex	Test Wt.	Plant Ht.	Ear Ht.	Mid-Season Brittle Stalk	Husk Cover	Gray Leaf Spot	No. Leaf Blight	Goss's Wilt	Anthrac. Stalk Rot	Gibberella Ear Rot	Corn After Corn	Drought Prone Soils	Early Planting/ Cold Soils	High Residue	High Yield Environment	Late Harvest	Poorly Drained Soils
			Ch	aracter	istics	Ratings	\$											Dise	ase Ra	tings				Suita	bility R	atings		
Above-/Below-Grou	und Insect Prote	ection																										
Р9834амх™*	AMX,LL,RR2	P9834	HAE,HTF	98	99	6	8	5	5	8	7	3	4	4	7		4	3	5	4	5	S	S	S	S	S	S	S
Р9910амх™	AMX,LL,RR2	P9910	HAE,HTF	99	102	7	8	5	5	7	6	3	6	6	5	5	5	4	5	3	5	S	S	S	S	S	S	S
Р9917амх™∗	AMX,LL,RR2	P9917	HTF,HES	99	96	4	6	6	4	8	5	4	4	4	6	5	3	5	4	2	4	S	HS	HS	S	HS	MA	S
Р0062амх™*	AMX,LL,RR2	P0062	AQ,HTF,HES	100	99	3	5	6	3	9	6	5	4	4	6		4	5	5	2	4	S	S	S	S	HS	S	S
<b>Р0297</b> АМ1 <sup>™†</sup>	AM1,LL,RR2	P0297	AQ,YFC,HAE,HTF	102	96	PBA	PAA	PAA	PBA	PAA		PA	PBA	PBA	PAA		PBA	PA	PA		PBA	S	HS	HS	S	HS	MA	S
<b>P0313</b> AM1™	AM1,LL,RR2	P0313	HAE,HTF	103	105	5	8	5	4	8	7	5	4	5	6	4	4	3	5			S	S	S	S	HS	S	S
Р0407амхт™*	AMXT,LL,RR2	P0407	AQ,YFC,HAE,HTF	104	101	PAA	PAA	PAA	PBA	PAA		PAA	PBA	PBA	PAA		PBA	PBA	PAA			S	HS	S	S	HS	S	S
Р0448амх™	AMX,LL,RR2	P0448	YFC,HAE,HTF,HES	104	102	7	7	5	5	7	6	6	4	4	6	5	5	5	6	4	5	HS	S	S	S	HS	HS	S
P0528AMX <sup>™</sup> *	AMX,LL,RR2	P0528	YFC,HAE,HTF,HES	105	100	5	8	5	6	7	5	6	3	4	6	8	5	4	7	4	4	HS	HS	S	S	S	S	HS
P0533AM1™	AM1,LL,RR2	P0533	YFC,HTF,HES	105	97	4	5	5	3	8	5	6	3	4	7	6	4	5	5	2	4	S	HS	HS	S	HS	MA	MA
Р0636амх™ <sup>†</sup>	AMX,LL,RR2	P0636	AQ,HAE,HTF,HES	106	108	5	7	6	5	9	6	4	7	7	6	7	5	4	5	4	4	S	HS	S	S	HS	MA	S
Р0652АМХ™*	AMX,LL,RR2	P0652	HTF,HES	106	104	PA	PAA	PAA	PBA	PAA		PAA	PA	PBA	PAA	PA	PA	PBA	PA	PBA	PA	S	HS	S	S	HS	S	MA
Р0987амх™ <sup>†</sup>	AMX,LL,RR2	P0987	YFC,HAE,HTF,HES	109	108	5	6	5	7	7	6	6	4	6	6	5	5	4	7	3	5	HS	HS	HS	HS	HS	HS	HS
<b>P1142</b> AMX <sup>™</sup> *	AMX,LL,RR2	P1142	HTF,HES	111	108	PA	PAA	PAA	PAA	PAA		PAA	PA	PBA	PAA	PBA	PBA	PBA	PA	PA		S	HS	S	S	HS	S	S
P1162AMX™ <sup>†</sup>	AMX,LL,RR2	P1162		111	104	5	7	5	5	8	5	4	3	4	5	8	5	5	4	4	3	HS	HS	HS	S	HS	S	S
Р1221амхт™*	AMXT,LL,RR2	P1221	YFC,HTF	112	111	7	7	5	7	8	6	6	5	5	6	5	6	6	7	5	5	HS	HS	S	S	HS	HS	S
Р1365амх™*	AMX,LL,RR2	P1365	HAE,HTF	113	111	8	8	5	8	8	7	8	6	7	5	4	6	6	7	7	4	HS	HS	MA	HS	HS	HS	S
<b>P1339</b> AM1 <sup>™</sup> *	AM1,LL,RR2	P1339		113	114	5	6	5	6	7	7	6	8	8	3	5	6	5	5	4	4	HS	S	MA	S	HS	HS	MA
Above-Ground Inse	ect Protection																											
P9748HR	HX1,LL,RR2	P9748	HAE,HTF	97	100	7	6	5	6	6	6	3	6	6	7	5	4	6	5	5	4	S	MA	HS	HS	HS	S	HS
37K11	HX1,LL,RR2	37K11	HAE,HTF	99	104	7	5	5	8	8	6	5	6	7	4	4	5	6	6	5	3	S	HS	HS	S	HS	S	S
P0193AM™*	AM,LL,RR2	P0193	HAE,HTF	101	101	7	8	5	6	8	6	3	4	4	6		4	4	5	4	4	S	HS	HS	HS	HS	HS	HS
P0216HR	HX1,LL,RR2	P0216	HTF	102	107	6	6	5	5	8	6	4	7	6	5	3	4	5	7	3	4	S	HS	S	S	HS	S	S
P0453AM™	AM,LL,RR2	P0453	HTF,HES	104	104	8	4	5	7	7	6	4	5	6	6	5	6	6	6	4	6	HS	S	S	S	HS	HS	S
Р0636ам™ <sup>†</sup>	AM,LL,RR2	P0636	AQ,HAE,HTF,HES	106	108	5	7	6	5	9	6	4	7	7	6	7	5	4	5	4	4	S	HS	S	S	HS	MA	S
34F07	HX1,LL,RR2	34F07	HAE,HTF	110	107	8	8	6	8	7	5	7	3	4	5	8	6	6	7	5	3	HS	MA	HS	HS	HS	HS	HS
Р1023ам™ <sup>†</sup>	AM,LL,RR2	P1023	HTF	110	111	6	8	5	8	8	7	5	5	7	7	8	6	6	7	4	6	HS	S	S	S	HS	HS	S
P1151AM™*	AM,LL,RR2	P1151	AQ,HAE,HTF	111	106	5	7	4	6	9	6	6	5	4	7	6	4	5	6	5	3	S	HS	S	S	HS	S	S
P1498AM™	AM,LL,RR2	P1498	AQ,YFC,HAE	114	110	6	5	6	7	9	7	6	6	7	6	8	6	5	6	4	4	S	HS	HS	S	HS	S	S
Refuge																												
P9917R*	RR2	P9917	HTF,HES	99	96	4	6	6	4	8	5	4	4	4	6	5	3	5	4	2	4	S	HS	HS	S	HS	MA	S
36V51	RR2	36V51		102	103	6	7	5	6	8	6	5	5	7	6	5	4	6	5	3	4	HS	HS	HS	HS	HS	S	S
P0448amrw™	AMRW,LL,RR2	P0448	YFC,HAE,HTF,HES	104	102	7	7	5	5	7	6	6	4	4	6	5	5	5	6	4	5	HS	S	S	S	HS	HS	S
P0448R	RR2	P0448	YFC,HAE,HTF,HES	104	102	7	7	5	5	7	6	6	4	4	6	5	5	5	6	4	5	HS	S	S	S	HS	HS	S
P0987R*	RR2	P0987	YFC,HAE,HTF,HES	109	108	5	6	5	7	7	6	6	4	6	6	5	5	4	7	3	5	HS	HS	HS	HS	HS	HS	HS
P1151r	RR2	P1151	AQ,HAE,HTF	111	106	5	7	4	6	9	6	6	5	4	7	6	4	5	6	5	3	S	HS	S	S	HS	S	S
P1162AMRW <sup>™†</sup>	AMRW,LL,RR2	P1162		111	104	5	7	5	5	8	5	4	3	4	5	8	5	5	4	4	3	HS	HS	HS	S	HS	S	S

### **Pioneer® brand Silage Corn Products\*\***

Hybrid/Brand***	Technology Segment	Hybrid Family	Market Segment	Silage CRM	Silage Yield	Starch	Fiber Digestibility	Whole-Plant Digestibility	Milk Per Acre	Milk Per Ton	Beef Per Acre	Beef Per Ton	Stalk Strength	Root Strength	Stress Emergence	Drought Tol.	Mid-Season Brittle Stalk	Corn After Corn	Drought Prone Soils	Early Planting/Cold Soils	High Residue	High Yield Environment	Late Harvest	Poorly Drained Soils
	Characteristics Ratings															Suitability Ratings								
Р0062амх™*	AMX,LL,RR2	P0062	AQ	98	8	9	9	9	9	9	9	9	3	5	6	9	6	S	S	S	S	HS	S	S
Р9910амх™	AMX,LL,RR2	P9910		100	7	9	7	9	8	9	8	9	7	8	5	7	5	S	S	S	S	S	S	S
Р0448амх™	AMX,LL,RR2	P0448		107	8	8	7	8	9	8	9	8	7	7	5	7	6	HS	S	S	S	HS	HS	S
34A90am1™	AM1,LL,RR2	34A85		108	9	6	9	7	9	7	9	7	5	4	4	5	6	S	MA	MA	S	S	S	MA
Р0636амх™ <sup>†</sup>	AMX,LL,RR2	P0636	AQ	108	8	7	7	6	7	7	7	7	5	7	6	9	6	S	HS	S	S	HS	MA	S
<b>P1162</b> AMX <sup>™†</sup>	AMX,LL,RR2	P1162		109	7	7	9	7	7	8	7	8	5	7	5	8	5	HS	HS	HS	S	HS	S	S
P1151am™*	AM,LL,RR2	P1151	AQ	109	7	9	6	9	7	9	7	9	5	7	4	9	7	S	HS	S	S	HS	S	S
<b>Р0987</b> АМХ <sup>™†</sup>	AMX,LL,RR2	P0987		110	8	8	8	9	8	8	8	8	5	6	5	7	6	HS	HS	HS	HS	HS	HS	HS
Р1498ам™	AM,LL,RR2	P1498	AQ	110	8	7	9	8	9	9	9	9	6	5	6	9	6	S	HS	HS	S	HS	S	S
Р1221амхт™*	AMXT,LL,RR2	P1221		112	8	8	9	9	9	9	9	9	7	7	5	8	6	HS	HS	S	S	HS	HS	S
P1376xr	HXX,LL,RR2	P1376	BMR	113	7	6	9	9	8	9	8	9	3	6	4		5	S	S	MA	S	Х	MA	S
P1449xr*	HXX,LL,RR2	P1449	BMR	114	PAA	PA	PAA	PAA	PAA	PAA	PAA	PAA		PA	PBA		PBA	S	S	MA	S	Х	MA	S

### **Corn Footnotes**

\*NFW

- \*\*All scores of integrated refuge products are based upon the major component
- \*\*\*All Pioneer products are hybrids unless designated with AM1, AM, AMRW, AMX and AMXT, in which case they are brands.
- + New Product. Not Available for sale until 2014 orders and invoicing are available. Quantities may be limited.

**IMPORTANT:** Trait rating scores provide key information useful in selection and management of Pioneer® brand products in your area. Information and ratings are based on comparisons with other Pioneer brand products, not competitive products. Information and scores are assigned by DuPont Pioneer Research Managers. Scores are based on period-ofvears testing through 2012 harvest and were the latest available at time of printing. Some scores may change after 2013 harvest. Scores represent an average of performance data across areas of adaptation, multiple growing conditions, and a wide range of both climate and soil types, and may not predict future results. All products within a hybrid family receive the same score unless observations indicate a significant difference. Individual product responses are variable and subject to a variety of environmental, disease and pest pressures. Please use this information as only one component of your product positioning decision. Refer to www.pioneer.com/products or contact a Pioneer sales professional for the latest and most complete listing of traits and scores for each Pioneer brand product.

RATINGS: 9 = Outstanding; 1 = Poor; PAA = Predicts Above Average; PA = Predicts Average: **PBA** = Predicts Below Average: Blank = Insufficient Data

**TECHNOLOGY SEGMENT: AM1** - Optimum<sup>®</sup> AcreMax<sup>®</sup> 1 Insect Protection System with an integrated corn rootworm refuge solution includes HXX.11, RR2, Optimum AcreMax 1 products contain the LibertyLink® gene and can be sprayed with Liberty® herbicide. The required corn borer refuge can be planted up to half a mile away. AMRW - Optimum® AcreMax® RW Rootworm Protection system with a single-bag integrated corn rootworm



refuge solution includes HXRW, LL, RR2. AM – Optimum<sup>®</sup> AcreMax<sup>®</sup> Insect Protection system with YGCB, HX1, LL, RR2. Contains a single-bag integrated refuge solution for above-ground insects. In EPA-designated cotton growing counties, a 20% separate corn borer refuge must be planted with Optimum AcreMax products. AMX - Optimum<sup>®</sup> AcreMax<sup>®</sup> Xtra Insect Protection system with YGCB, HXX, LL, RR2. Contains a single-bag integrated refuge solution for above- and below-ground insects. In FPA-designated cotton growing counties, a 20% separate corn borer refuge must be planted with Optimum AcreMax Xtra products. AMXT (Optimum® AcreMax<sup>®</sup> XTreme) – Contains a single-bag integrated refuge solution for above- and below-ground insects. The major component contains the Agrisure® RW trait, the YieldGard® Corn Borer gene, and the Herculex® XTRA genes. In EPA-designated cotton growing counties, a 20% separate corn borer refuge must be planted with Optimum AcreMax XTreme products. HX1 - Contains the Herculex® I Insect Protection gene which provides protection against European corn borer, southwestern corn borer, black cutworm, fall armyworm, western bean cutworm, lesser corn stalk borer, southern corn stalk borer, and sugarcane borer; and suppresses corn earworm. **HXRW** - The Herculex<sup>®</sup> RW insect protection trait contains proteins that provide enhanced resistance against western corn rootworm, northern corn rootworm and Mexican corn rootworm. HXX - Herculex® XTRA contains the Herculex I and Herculex RW genes. LL Contains the LibertyLink® gene for resistance to Liberty® herbicide. RR2 - Contains the Roundup Ready® Corn 2 trait that provides crop safety for over-the-top applications o labeled glyphosate herbicides when applied according to label directions. YGCB - The YieldGard<sup>®</sup> Corn Borer gene offers a high level of resistance to European corn borer, southwestern corn borer and southern cornstalk borer: moderate resistance to corn earworm and common stalk borer; and above average resistance to fall armyworm. Herculex® Insect Protection technology by Dow AgroSciences and Pioneer Hi-Bred. Herculex® and the HX logo are registered trademarks of Dow AgroSciences LLC YieldGard®, the YieldGard Corn Borer Design and Roundup Ready® are registered trademarks used under license

from Monsanto Company

Liberty®, LibertyLink® and the Water Droplet Design are trademarks of Bayer.

Agrisure® is a registered trademark of, and used under license from, a Syngenta Group Company. Agrisure® chnology incorporated into these seeds is commercialized under a license from Syngenta Crop Protection A HYBRID FAMILY: Hybrid family identifies products that have the same base genetics. Manage products within the same family similarly.

MARKET SEGMENT: Designations indicate product is also suitable for the following market: HAE – High Available Energy (Pork & Poultry Feed): HTF – High Total Fermentables (Dry-Grind Ethanol); HES - High Extractable Starch (Wet Milling); WX – Waxy; WH – White food corn; YFC – Yellow food corn; AQ – Optimum® AQUAmax<sup>™</sup> product; **BMR** – Brown MidRib Corn.

**CRM (Comparative Relative Maturity):** There is not an industry standard for maturity ratings so comparing product maturity and harvest moisture ratings between companies is usually difficult. Use the CRM rating to compare Pioneer brand products with competitive products of a similar maturity and harvest moisture. CRM ratings, and harvest moistures, for products within a family may vary slightly, depending upon the level of insect (ECB and CBW) infestation. Conventional and straight products with the RR2 gene within a family will usually be 1-2 CRMs earlier than indicated, when nsect infestations are moderate to heavy. One CRM difference is about 1/2 point of moisture difference at harvest.

STRESS EMERGENCE: All products are expected to establish normal stands under average soil conditions. Stress emergence is a measure of the genetic ability or

potential to emerge in the stressful environmental conditions of cold, wet soils or short periods of severe low temperatures, relative to other Pioneer brand products. Ratings of 7-9 indicate very good potential to establish normal stands under such conditions; a rating of 5-6 indicates average potential to establish normal stands under moderate stress conditions; and ratings of 1-4 indicate the product has below average potential to establish normal stands under stress and should not be used if severe cold conditions are expected immediately after planting. Stress emergence is not a rating for seedling disease susceptibility, early growth or speed of emergence.

**DROUGHT TOLERANCE:** Drought tolerance is a complex trait, determined by a platform's ability to maintain yield in limited-moisture environments. A higher score indicates the potential for higher yields vs. other platforms of similar maturity in limited-moisture environments

EAR FLEX: Score reflects the ability of a product to flex ear size as plant density is reduced, or as growing conditions improve.

TEST WEIGHT: Higher score indicates heavier test weight.

**PLANT HEIGHT: 9** = Very Tall: **1** = Short.

EAR HEIGHT: 9 = High; 1 = Low.

MID-SEASON BRITTLE STALK: Ratings determined by frequency and severity of stalk snappage at lower to middle stalk internodes from conditions usually favored by rapid or optimum growth. Relative response of products can be affected by planting date, stage of growth, rate of growth, wind severity and other variables. Scores derived from both natural observations and artificial evaluation immediately prior to tasseling. NOTE: Scores do not reflect snappage enhanced by or due to herbicide interaction. The use of growth regulator herbicides such as 2,4–D and dicamba can increase the brittle snap potential of corn products. Products with lower brittle stalk ratings will require more caution and have a higher risk associated with the use of growth regulator herbicides. Early application, proper rates and application methods, along with both product and herbicide selection can help reduce this risk BRITTLE STALK PRECAUTION: In areas with higher potential for brittle stalk breakage, growers must balance the risk of planting products with brittle stalk ratings of less than 4 against the overall performance of more resistant products with higher ratings. All products have a period of susceptibility to brittle stalk. Products with below average ratings may have a longer period of susceptibility, or may experience more severe breakage relative to products with higher scores during period of susceptibility.

DISEASE PRECAUTION: Grower should balance product yield potential product maturity and cultural practice selection against their anticipated risk of a specific disease and need for resistance. In high disease-risk conditions, consider planting products with at least moderate resistance ratings of 4 or higher to help reduce risk. When susceptible products with disease ratings of 1 to 3 are planted in conditions of high disease pressure, the grower assumes a higher level of risk. If conditions are severe, even products rated as resistant can be adversely affected. Independent of yield reduction, diseases can predispose plants to secondary diseases such as stalk rots. This requires individual field and product monitoring for stalk stability and timely harvest when warranted

**DISEASE & PEST RATINGS: 8-9** = Highly Resistant; 6-7 = Resistant; 4-5 = Moderately Resistant: 1-3 = Susceptible: PAA = Predicts Above Average: PA = Predicts Average; **PBA** = Predicts Below Average; Blank = Insufficient Data.

**GRAY LEAF SPOT PRECAUTION:** Avoid planting products with a lower gray leaf spot (GLS) rating in continuous corn fields that have a history of GLS infection, unless tillage operations that bury significant amounts of corn residue and inoculum are practiced.

NORTHERN LEAF BLIGHT CAUTION: In conditions where northern leaf blight (NLB) risk is high, growers should consider planting only products with at least moderate NLB resistance ratings of 4 or higher

GIBBERELLA EAR ROT CAUTION: Ratings based upon visual symptoms at harvest. If Gibberella ear rot has caused significant damage in the past, growers should consider planting only products with at least moderate Gibberella ear rot ratings of 5 or higher.

SUITABILITY RATINGS: HS - Highly Suitable; S - Suitable; MA - Manage Appropriately; X - Poorly Suited. Suitability rating based on historical field observations and analysis of traits by DuPont Pioneer agronomists and research scientists may not predict future results. Product responses are variable and subject to any number of environmental disease and pest pressures. Please use this information as part of vour product positioning decision. Trait scores are based upon period-of-years testing against other Pioneer® brand products. Scores are assigned from research data across a wide range of climates and growing conditions and were the latest available at the time of printing. Refer to www.pioneer.com or contact a Pioneer sales professional for the latest and most complete listing of traits and scores for each Pioneer brand product

### **Corn Silage Footnotes**

SILAGE CRM (Silage Comparative Relative Maturity): With no industry standard for silage maturity, comparing maturity and harvest moisture across various company's corn-for-silage products can be difficult. DuPont Pioneer silage CRM ratings provide a relative comparison among Pioneer brand products of rates at which products reach harvestable whole-plant moistures. It is on the same scale as the CRM rating provided for grain corn products and does not represent actual days from planting or emergence to harvest moisture or half milkline.

**SILAGE YIELD:** Based on whole-plant yield per acre (adjusted to 30% dry matter) from multi-year comparison of products within a maturity range not exceeding 5 silage CRM units.

**STARCH:** Based on a relative comparison of the whole-plant concentration of starch among individual products.

FIBER DIGESTIBILITY: Based on 24-hour enzymatic estimate of percent degradable neutral detergent fiber (NDF) as a percent of total NDF in whole-plant sample, predicted by NIRS.

WHOLE-PLANT DIGESTIBILITY: Based on estimated 24-hour in vitro whole-plant digestibility percentage (dry matter basis), as predicted by Near Infrared Reflectance Spectroscopy (NIRS).

**MILK PER ACRE:** 9 = Outstanding; 1 = Poor, based on University of Wisconsin MILK2006 utilizing silage yield, nutrient content and digestibility.

**MILK PER TON:** 9 = Outstanding; 1 = Poor, based on University of Wisconsin MILK2006 utilizing silage nutrient content and digestibility.

**BEEF PER ACRE:** 9 = Outstanding; 1 = Poor, based on University of Wisconsin MILK2006 utilizing silage yield, nutrient content and digestibility.

**BEEF PER TON:** 9 = Outstanding; 1 = Poor, based on University of Wisconsin MILK2006 utilizing silage nutrient content and digestibility.

