



# Corn



## 2012 Operation Level Product Summary

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### Characteristics, Disease and Suitability Ratings\*

PIONEER® BRAND PRODUCTS				HYBRID FAMILY	CRM	GDUs to Phy. Mat.	Plant Ht.	Drought Tol.	No. Leaf Blight	Root Strength	Stalk Strength	Fiber Digestibility	Milk Per Acre	Milk Per Ton	PHD Segment	Silage CRM	Silage Yield	Whole-Plant Digestibility	Corn After Corn	Drought Prone Soils	Early Planting/ Cold Soils	Total Units
<b>35K09AM1</b>	AM1/LL/RR2	35K01	106	2530	7	7	4	5	5	8	8	8	PHD	104	8	8	S	S	HS			
<b>P1151AM1†</b>	AM1/LL/RR2	P1151	111	2580	PA	PAA	PA	PAA	PA	PAA	PAA	PAA		109	PAA	PAA						
<b>P1162AM1</b>	AM1/LL/RR2	P1162	111	2600	3	8	5	7	5	9	8	8	PHD	109	8	8	S	HS	S			
<b>P1184AM1</b>	AM1/LL/RR2	P1184	111	2650	7	7	5	8	7	8	8	8	PHD	110	8	8	HS	HS	S			
<b>P1319AM1†</b>	AM1/LL/RR2	P1319	113	2730	PAA	PAA	PA	PAA	PA	PAA	PAA	PAA	PHD	112	PAA	PAA						
<b>P1395AM1</b>	AM1/LL/RR2	P1395	113	2730	6	7	5	5	6	9	9	8	PHD	113	8	8	S	HS	HS			

Comments/Notes:

Products in GREEN are new.

\* See reverse side for complete definitions and disclaimers related to product descriptions and ratings.

Pioneer® brand products are provided subject to the terms and conditions of purchase which are part of the labeling and purchase documents. Pioneer is a brand name; numbers identify products. ®, TM, SM Trademarks and service marks of Pioneer Hi-Bred. © 2011 PHIL.



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## NOTES AND EXPLANATIONS:

**IMPORTANT:** Trait rating scores provide key information useful in selection and management of Pioneer® brand hybrids in your area. Information and ratings are based on comparisons with other Pioneer brand hybrids, not competitive hybrids. Information and scores are assigned by Pioneer Research Managers. Scores are based on period-of-years testing through 2009 harvest and were the latest available at time of printing. Some scores may change after 2010 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/growingpoint](http://www.pioneer.com/growingpoint) or contact a Pioneer sales professional for the latest and most complete listing of traits and scores for each Pioneer brand product.

† These products are new for 2010 in very limited quantities. Some may not be available until 2011. Ratings are preliminary and may change after research data is collected from the fall of 2010. Work closely with your Pioneer sales professional or Pioneer account manager when positioning these hybrid families on your fields. Contact your Pioneer sales professional after harvest for updated ratings and performance information.

^ EXPORT APPROVAL NOTICE

Although fully approved in the United States, Canada and Japan, grain and certain grain by-products from THESE HYBRIDS MAY NOT BE APPROVED for all markets. Pioneer customers are advised to discuss trait acceptance policies with their local grain handler prior to delivering grain containing biotech traits.

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

**WHITE AND WAXY CORN RATINGS:** Based on comparisons with other Pioneer hybrids, not competitive hybrids. Yield and other trait ratings for white and waxy hybrids reflect comparison with non-modified yellow hybrids of a similar maturity.

**TECHNOLOGY SEGMENT:** HX1 - The Herculex® I Insect Protection trait offers a high level of resistance to European corn borer, southwestern corn borer and fall armyworm; very good resistance to black cutworm and western bean cutworm; and moderate resistance to corn earworm. HXRW - Contains the Herculex® RW gene for protection against Northern, Western and Mexican corn rootworm. HXX - Herculex® XTRA contains the Herculex I and Herculex RW genes. YGCB - The YieldGard® 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. LL - Contains the LibertyLink® gene for resistance to Ignite® herbicide. RR2 - Contains the Roundup Ready® Corn 2 trait that provides crop safety for over-the-top applications of labeled glyphosate herbicides when applied according to label directions.



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.

Ignite®, LibertyLink and the Water Droplet logo are trademarks of Bayer.

**HYBRID FAMILY:** Hybrid family identifies hybrids that have the same base genetics. Manage hybrids within the same family similarly.

**Pioneer IndustrySelect® Products for END-USE SEGMENT:** Designations indicate hybrid is also suitable for the following end uses: 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.

**CRM (Comparative Relative Maturity):** There is not an industry standard for maturity ratings so comparing hybrid maturity and harvest moisture ratings between companies is usually difficult. Use the CRM rating to compare Pioneer brand hybrids with competitive hybrids of a similar maturity and harvest moisture. CRM ratings, and harvest moistures, for hybrids within a family may vary slightly, depending upon the level of insect (ECB and CRW) infestation. Conventional and straight hybrids with the RR2 gene within a family will usually be 1-2 CRMs earlier than indicated, when insect infestations are moderate to heavy. One CRM difference is about ½ point of moisture difference at harvest.

**PHYSIOLOGICAL CRM:** Measures differences in maturity to zero milkline stage. To help decide if a new hybrid fits your area's growing season, compare its physiological CRM to a hybrid that you plant or one that is successfully used in your area.

**GDUs TO PHYSIOLOGICAL MATURITY:** Measures differences in growing degree units (GDUs) required to zero milkline stage. To help decide if a new hybrid fits your area's growing season, compare its GDUs to physiological maturity to a hybrid that you plant or one that is successfully used in your area.

**GRAIN DRYDOWN:** Compares hybrids of similar maturity for rate of moisture loss during grain drydown. A higher score indicates faster drydown. A lower score indicates slower drydown, or a wider opportunity for silage and high-moisture corn harvest.

**STRESS EMERGENCE:** All hybrids 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 hybrids. 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 hybrid 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 hybrid 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 snapping at lower to middle stalk internodes from conditions usually favored by rapid or optimum growth. Relative response of hybrids 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 snapping 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 hybrids. Hybrids 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 hybrid 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 hybrids with brittle stalk ratings of less than 4 against the overall performance of more resistant hybrids with higher ratings. All hybrids have a period of susceptibility to brittle stalk. Hybrids with below average ratings may have a longer period of susceptibility, or may experience more severe breakage relative to hybrids with higher scores during period of susceptibility.

**DISEASE AND PEST RESISTANCE FOOTNOTES:**

**DISEASE PRECAUTION:** Grower should balance hybrid yield potential, hybrid maturity and cultural practice selection against their anticipated risk of a specific disease and need for resistance. In high disease-risk conditions, consider planting hybrids with at least moderate resistance ratings of 4 or higher to help reduce risk. When susceptible hybrids 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 hybrids 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 hybrid 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; Blank = Insufficient Data. PAA = Predicts Above Average; PA = Predicts Average; PBA = Predicts Below Average.

**GRAY LEAF SPOT PRECAUTION:** Avoid planting hybrids 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 hybrids with at least moderate NLB resistance ratings of 4 or higher.

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

**DIPLODIA EAR ROT CAUTION:** Ratings based upon visual symptoms at harvest. If Diplodia ear rot has caused significant damage in the past, growers should consider planting only hybrids with a Diplodia ear rot rating of 4 or higher.

**EYESPOT:** Degree of resistance to the disease under natural infestation. Data is limited by the number of observations, but it should provide a general ranking of resistance.

**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 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® 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/growingpoint](http://www.pioneer.com/growingpoint) or contact a Pioneer sales professional for the latest and most complete listing of traits and scores for each Pioneer brand product.

**REFUGE:** This proposal may not take into account specific EPA refuge requirements. The Operator must review this proposal, together with any other information the Operator may have such as other properties farmed in the area or adjacent to the proposal farms, to determine refuge requirements as defined by the Product Use Guide(s) for the trait(s) to be planted. Please contact your local Pioneer sales professional with the product placement adjustments that you must make in order to ensure refuge compliance.