2023-24 Corn Hybrid-Herbicide Management Guide & Ratings**

Pioneer developed the Corn Hybrid-Herbicide Management Guide to help our customers manage our products to the best of their abilities. One of four possible ratings is assigned: adequate tolerance, requires careful management, crop response warning, or insufficient data. Ratings are based on replicated research trials and field observations. Under certain environmental conditions any product can be injured by any herbicide. This guide can assist in selecting and managing herbicide programs. It is based on replicated research trials and field observations. See your Pioneer sales professional or herbicide representative regarding herbicide families that require careful management**.** Any herbicide family NOT listed in the chart below indicates Pioneer has NO evidence of a hybrid by herbicide interaction concern. Always read and follow all label instructions and precautions. Pioneer makes no warranty regarding the herbicide crop response information in this guide.

Herbicide Families Evaluated	Trade Name Tested	Example Products In Herbicide Family
Amide (Chloroacetamide and Others)	Harness®	Surpass®, Dual II Magnum®, Outlook®, Lasso®, Topnotch®, Zidua®, Degree®, Define®, Ramrod®, Keystone®, Cinch® Breakfree® and FulTime®
Benzoic Acid, Phenoxy (Synthetic Auxins)	Clarity®	Clarity®, 2,4-D, Banvel®, Distinct®, DiFlexx® and Status®
Isoxazole (4-HPPD Inhibitors)	Balance® Flexx, Balance® Pro or Callisto®	Balance Pro, Balance Flexx, Callisto, Impact® and Laudis®
Sulfonylureas (ALS Inhibitors)	Resolve® Q, Option® or Unsafened Resolve®.	Accent®, Basis®, Beacon®, Permit®, Elim®, Steadfast®, Resolve® and sulfonanilides (Python®)

ADEQUATE TOLERANCE: With the particular product, available research and/or field observations suggest this herbicide is unlikely to result in material crop injury under normal circumstances.

REQUIRES CAREFUL MANAGEMENT: With this particular product, available research and or field observations suggest this herbicide may exhibit crop injury in challenging environments such as, heavy rainfall during seed germination or seedling emergence, sandy soils, soils low in organic matter, high pH soils, or during periods of excessively cold, hot, dry or wet weather. *University research indicates products within a herbicide class may vary in their degree of crop selectivity. The potential for herbicide interaction may also be impacted by the labeled herbicide rate used and the method or timing of application as well as the addition of additives.

[5]Amide (Chloroacetamide and Others)
Injury from chloroacetamide herbicides is more prevalent on sandy soils with low organic matter. Additional conditions that may increase the potential for injury include deep planting, cool wet conditions, and/or soil crusting. Management comments for reducing injury potential include:

1. Monitor planting depth.
2. Avoid sandy soils with low organic matter.
3. Use a chloroacetamide herbicide with a safener.
4. Use rotary hoe if crusting occurs, to aid in emergence.
5. Avoid ultra early planting dates.

[6]Phenoxy and Benzoic Acid (Synthetic Auxins)
Potential for crop injury from growth regulator herbicides increases when product is under stress, herbicide is applied at a late stage of growth, or high winds occur after application. Management comments for reducing injury potential include:

1. Apply herbicide early within label recommendations (up to 5-6" or V3 for dicamba).
2. Avoid spraying when daytime temperatures are high and corn plants are growing rapidly.
3. Follow labeled rates for specific stages of growth.
4. Avoid spraying when environmental conditions such as drought, cold soils, or wind damage cause abnormal stress.
5. Please read labels carefully. Many herbicides include growth regulator herbicides as part of their pre-mix. Many tank mixes require use of NIS or other additives that may increase injury potential.

[7]Isoxazole (4-HPPD Inhibitors)
Crop injury from a pigment inhibitor is more probable on sandy soils with low organic matter. Cool, wet growing conditions may also increase potential for damage. Management comments to reduce the potential for injury include:

1. Follow labeled rates for specific soil types.
2. Avoid sandy soils with low organic matter.
3. Avoid ultra early planting dates to prevent extended slow emergence under cold conditions.
4. Plant seed at least 1.5 inches deep with good seed furrow closure.
5. Aid emergence with a rotary hoe if crusting occurs.

[8]Sulfonylureas (ALS Inhibitors)
Injury from sulfonylureas is more likely when corn is sprayed after the plant is 10-12 inches tall and/or is under stress extremes such as hot humid or cool dry conditions. Management comments to reduce the potential for injury include:

1. Apply herbicide early within label recommendations (before product is 10-12 inches tall).
2. Avoid spraying when corn is under stress extremes such as hot humid or cool dry conditions.
3. Some sulfonylurea products are restricted on products with maturity shorter than 88 CRM. Review the label carefully before applying any sulfonylurea product to products less than 88 CRM.
4. Use a sulfonylurea herbicides with a safener.

CROP RESPONSE WARNING: With this product in field observations and/or research, crop injury has occurred with this herbicide.

INSUFFICIENT DATA: Additional testing is needed to evaluate this product.

Adequate Tolerance **Requires Careful Management** **Crop Response Warning** **Insufficient Data**

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			Herbicide Families			
Hybrid Family[3]	CRM[1]	Market Segment[4]	Amide[5]	Benzoic Acid and Phenoxy[6]	Isoxazole[7]	SU[8]
P9624	96	HTF,HES	●	●	●	●
P9880	98	HAE	●	●	●	●
P9955	99	HAE,HTF	●	●	●	●
P9998	99	AQ,HAE,HTF	●	●	●	●
P0075	100	HTF	●	●	●	●
P0306	103	AQ,HAE,HTF	●	●	●	▼
P0343	103	HTF	●	●	●	●
P0404	104	HTF	●	▼	●	●
P0589	105	AQ,HTF	●	●	●	●
P0622	106	AQ,HTF	●	▼	●	▼
P0688	106	HAE,HTF	●	●	●	●
P0859	108	HTF,HES	●	▼	●	●
P0908	109		●	●	●	●
P0924	109	HAE	●	■	●	●
P0934	109	WX,HES	●	●	●	●
P0953	109	HTF,HES	●	●	●	●
P0977	109	HAE	●	●	●	●
P09944	109					
P0995	109	AQ,HTF	▼	▼	●	●
P1027	110	HTF				
P1077	110	HTF	●	●	●	●
P1089	110	AQ,YFC	●	●	●	●
P1108	111	HAE,HTF	●	●	●	●
P1120W	111	WH,HTF	●	▼	▼	●
P1122	111	AQ,HTF	●	■	●	
P1138	111	HTF,HES	●	●	●	●
P1151	111	AQ,HAE,HTF	●	●	●	●
P1164	111	HTF,HES	●	●	●	●
P1170	111	HTF	●	●	▼	●
P1185	111	HTF	●	▼	●	▼
P1197	111	HTF,HES	●	●	●	●
P1222	112	HTF	●	■	●	●
P1237	112		▼	●	●	●
P1244	112	AQ,HAE	●	●	●	●
P1278	112	HTF,HES	▼	■	▼	▼
P1289	112	HTF,HES	●	■	●	▼
P12904	112	HAE				
P13050	113					
P1306W	113	WH,HTF	●	●	●	●
P13131	113	WH				
P13476	113	AQ,HTF				
P1353	113	HTF	▼	●	●	●
P1359	113	HTF,HES	▼	▼	●	▼
P1366	113	WX,HTF	●	●	●	●
P13968	112	BMR,BOV				
P1408W	114	WH	▼	●	●	●
P1413	114	AQ,HTF	●	●	●	●
P1415	114	YFC,HTF	●	●	●	●
P1449	114	BMR,HAE	●	●	●	●
P1457W	116	WH	●	●	●	●
P1464	114	HTF	●	▼	●	▼
P14830	114	HTF				

● Adequate Tolerance ▼ Requires Careful Management ■ Crop Response Warning ▭ Insufficient Data

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Hybrid Family[3]	CRM[1]	Market Segment[4]	Herbicide Families: Amide[5]	Benzoic Acid and Phenoxy[6]	Isoxazole[7]	SU[8]
P1511	**115**	**YFC,HTF**	●			
P1548	115	AQ,HES,HTF	●	●	●	●
P1563	115	HTF,HES	●	●	●	●
P1572	115	HTF	●	●	●	●
P1608	**116**	**YFC,HTF**	●	■	●	●
P1633	**116**	**HAE,HTF**	●	■	●	▼
P1656W	116	WH,HTF	●	●	●	●
32B10	117	WH,HAE,HTF	●	●	▼	●
P1716	117	YFC,HTF				
P1718	117	HTF	▼	▼	●	●
P1742	**117**	**HTF**	●	●	●	●
P17677	**117**	**HTF**				
P1790W	**117**	**WH**				
P1828	118	HTF	●	●	▼	●
P1847	118	YFC,HTF	●	●	▼	●
P2042	120	YFC,HTF				
P2088	120	HTF	●	●	▼	▼

***Introductory product. Quantities may be limited.**

†**New Product.**

**All scores of integrated refuge products are based upon the major component.

***All Pioneer products are hybrids unless designated with AM1, AM, AML, AMT, AMX, AMXT, Q and V in which case they are brands.

Product performance in water-limited environments is variable and depends on many factors such as the severity and timing of moisture deficiency, heat stress, soil type, management practices and environmental stress as well as disease and pest pressures. All products may exhibit reduced yield under water and heat stress. Individual results may vary.

[1] **Comparative Relative Maturity**

[3] **HYBRID FAMILY:** Hybrid family identifies products that have the same base genetics. Manage products within the same family similarly.

[4] **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® product; **BMR –** Brown MidRib Corn; **BOV** – Bovalta™ BMR Corn.

Ratings in this guide based on data collected through 2022 harvest.

References: (1) 2022 Herbicide Guide for Iowa Corn and Soybean Production, Extension Publication WC-94, B. Hartzler & M. Owen; (2) Weed Control Guide for Ohio, Indiana, and Illinois 2022 Edition, Bulletin 789, The Ohio State University Extension, M. M. Loux, D.Doohan, A. Dobbels and B. Reeb The Purdue Extension;W.G. Johnson, B. Young and J. Ikley University of Illinois Crop Sciences: A. Hager. (3) 2021 Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland, Bulletin SRP 1148, Kansas State University, Agricultural Experiment Station & Cooperative Extension Service, D. E. Peterson, W. H. Fick, R.S. Currie, V. Kumar, and J.W. Slocombe.

REV. 12/27/22

● **Adequate Tolerance** ▼ **Requires Careful Management** ■ **Crop Response Warning** □ **Insufficient Data**