

Corn Hybrid-Herbicide Management Guide

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. Any herbicide family **NOT listed in the chart below indicates Pioneer has NO evidence of a hybrid by herbicide interaction concern.**

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

ADEQUATE TOLERANCE: Available research and field observations suggest this herbicide-seed product combination is unlikely to result in crop injury.

REQUIRES CAREFUL MANAGEMENT: This herbicide-seed product combination 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 seed product-herbicide interaction may also be impacted by the labeled herbicide rate used and the method or timing of application. For growth regulator herbicides, these hybrids may exhibit greater early-season stalk breakage when applied prior to a significant windstorm.

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 hybrids with lower tolerance to chloroacetamides 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.

Phenoxy and Benzoic Acid (Synthetic Auxins)

Potential for crop injury from growth regulator herbicides increases when hybrid 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.

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 that may reduce the likelihood of 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.

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. Additional management comments when applying sulfonylureas include:

1. Apply herbicide early within label recommendations (before hybrid 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 hybrids with maturity shorter than 88 CRM. Review the label carefully before applying any sulfonylurea product to hybrids less than 88 CRM.

CROP RESPONSE WARNING: In field observations and research, crop injury has occurred with this herbicide-seed product combination.

INSUFFICIENT DATA: Additional testing is needed to evaluate this herbicide-seed product combination.

The purpose of this guide is to assist you in selecting and managing your herbicide programs. However, in certain environmental conditions, higher herbicide activity or reduced crop tolerance may occur. In such cases, crop injury may occur on hybrids rated as having acceptable tolerance to the herbicide. Environmental conditions are the key factor in hybrid-herbicide interactions. Always read and follow all label instructions and precautions. Pioneer makes no warranty regarding the herbicide crop response information in this guide.

Basis Gold® is a restricted-use pesticide.

All herbicides are trademarks of their respective manufacturers.

****References:** (1) 2007 Iowa State University Herbicide Manual for Ag Professionals, Extension Publication WC-92, B. Hartzler & M. Owen; (2) Weed Control Guide for Ohio Field Crops 2007 Edition, Bulletin 789, The Ohio State University Extension, M. M. Loux and J. M. Stachler; (3) 2007 Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland, Bulletin 977, Kansas State University, Agricultural Experiment Station & Cooperative Extension Service, D. L. Regher, D. E. Peterson, W. H. Fick, P. W. Stahlman, & R. E. Wolf.

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