

Breaking down corn insect protection technologies




ABOVE-GROUND INSECT PROTECTION

	Above-ground insect protection event (protein)	Herbicide tolerance (HT) (event/gene)	Refuge requirement - Corn belt unless otherwise designated
Options in the Pioneer® brand portfolio	Optimum® AcreMax® & Optimum® Intraset® PRODUCTS TC1507 (Cry1F), MON810 (Cry1Ab)	glyphosate (NK603), glufosinate (pat)	Optimum AcreMax products: INTEGRATED* 5% glyphosate, glufosinate HT
			Optimum Intraset products: STRUCTURED 5% corn belt / 20% EPA cotton counties
	Optimum® AcreMax® Leptra® & Optimum® Leptra® PRODUCTS TC1507 (Cry1F), MON810 (Cry1Ab), MIR162 (Vip3Aa)	glyphosate (NK603), glufosinate (pat)	Optimum AcreMax Leptra products: INTEGRATED* 5% glyphosate, glufosinate HT
			Optimum Leptra products: STRUCTURED 5% corn belt / 20% EPA cotton counties
PowerCore® Enlist® Refuge Advanced® corn† PRODUCTS TC1507 (Cry1F), MON89034 (Cry1A.105 + Cry2Ab)	2,4-D choline + FOP (DAS40278), glyphosate (NK603), glufosinate (pat)	PowerCore Enlist Refuge Advanced corn: INTEGRATED* 5% 2,4-D choline, glyphosate, glufosinate, FOP HT	
		PowerCore Enlist corn: STRUCTURED 5% corn belt / 20% EPA cotton counties	
PowerCore® Ultra Enlist® corn† PRODUCTS TC1507 (Cry1F), MON89034 (Cry1A.105 + Cry2Ab), MIR162 (Vip3Aa)	2,4-D choline + FOP (DAS40278), glyphosate (NK603), glufosinate (pat)	PowerCore Ultra Enlist corn: INTEGRATED* 5% 2,4-D choline, glyphosate, glufosinate, FOP HT	
		STRUCTURED 5% corn belt / 20% EPA cotton counties	
Competitive products	VT Double PRO® RIB Complete® corn blend MON89034 (Cry1A.105 + Cry2Ab)	glyphosate (NK603)	VT Double PRO Complete Corn Blend: INTEGRATED 5% glyphosate, glufosinate HT
			VT Double PRO® corn: STRUCTURED 5% corn belt / 20% EPA cotton counties
	Trecepta® RIB Complete® corn MON89034 (Cry1A.105 + Cry2Ab), MIR162 (Vip3Aa)	glyphosate (NK603)	Trecepta RIB Complete corn: INTEGRATED 5% glyphosate, glufosinate HT
			Trecepta corn: STRUCTURED 5% corn belt / 20% EPA cotton counties
	Agrisure® 3120 E-Z Refuge® corn TC1507 (Cry1F), Bt11 (Cry1Ab)	glyphosate (GA21), glufosinate (pat)	INTEGRATED 5% glyphosate, glufosinate HT
Agrisure® 3330 E-Z Refuge® corn Bt11 (Cry1Ab), MIR162 (Vip3Aa), MON89034 (Cry1A.105 + Cry2Ab)	glyphosate (GA21), glufosinate (pat)	INTEGRATED 5% glyphosate, glufosinate HT	

† The PowerCore® Enlist® Refuge Advanced® trait, PowerCore® Ultra Enlist® trait, and PowerCore® Ultra Enlist® Refuge Advanced® trait and Vorceed™ Enlist® trait will not be offered for sale or distribution until completion of field testing and applicable regulatory reviews.

* All integrated refuge products in the Pioneer® brand portfolio are available in EPA cotton counties with an additional 20% structured refuge.

ABOVE- AND BELOW-GROUND INSECT PROTECTION

	Above-ground insect protection event (protein)	Below-ground insect protection event (protein/gene)	Herbicide tolerance (HT) (event/gene)	Refuge requirement - Corn belt unless otherwise designated	
Options in the Pioneer® brand portfolio	Qrome® PRODUCTS	DP4114 (Cry1F), MON810 (Cry1Ab)	glyphosate (NK603), glufosinate (pat)	INTEGRATED 5% glyphosate, glufosinate HT	
	Optimum® AcreMax® XTreme PRODUCTS	TC1507 (Cry1F), MON810 (Cry1Ab)	glyphosate (NK603), glufosinate (pat)	INTEGRATED 5% glyphosate, glufosinate HT	
	Vorceed™ Enlist® corn† 	DP4114 (Cry1F), MON89034 (Cry1A.105 + Cry2Ab)	DP4114 (Cry34/35Ab1), MON87411 (DvSnf7 + Cry3Bb1)	2,4-D choline + FOP (DAS40278), glyphosate (MON87411), glufosinate (pat)	INTEGRATED 5% 2,4-D choline, glyphosate, glufosinate, FOP HT
Competitive products	SmartStax® Technology	TC1507 (Cry1F), MON89034 (Cry1A.105 + Cry2Ab)	MON88017 (Cry3Bb1), DAS59122 (Cry34/35Ab1)	glyphosate (MON88017), glufosinate (pat)	INTEGRATED 5% glyphosate, glufosinate HT
	SmartStax® PRO Technology	TC1507 (Cry1F), MON89034 (Cry1A.105 + Cry2Ab)	MON87411 (DvSnf7 + Cry3Bb1), DAS59122 (Cry34/35Ab1)	glyphosate (MON87411), glufosinate (pat)	INTEGRATED 5% glyphosate, glufosinate HT
	Agrisure® Duracade® 5122 E-Z Refuge® corn	TC1507 (Cry1F), Bt11 (Cry1Ab)	MIR604 (mCry3A), 5307 (eCry3.1Ab)	glyphosate (GA21), glufosinate (pat)	INTEGRATED 5% glyphosate, glufosinate HT



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Efficacy levels based on Corteva Agriscience and/or independent university entomologist results against susceptible insect populations. Product responses can vary by location, pest population, environmental conditions, and agricultural practices.

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