Canadian Bt and RNAi Traits Available in Corn Hybrids as of September 2026

ABOVE AND BELOW GROUND TRAIT PACKAGES (LEPIDOPTERA + CORN ROOTWORM TRAITS)										
Trade Name	**Insecticidal Protein(s)/RNAi Technology** **1st Line = Above Ground** **2nd Line = Below Ground**	**# of Insecticidal Traits Providing Protection (See Resistance Table Provided Below)**							**Herbicide Tolerance**	**Refuge % & Location**
		Above Ground						**Below Ground**		
		BCW	**CEW**	**ECB**	**FAW**	**TAW**	**WBC**	**CRW**		
Agrisure® 3122 E-Z Refuge®	Cry1Ab, Cry1Fa mCry3A, Gpp34/Tpp35Ab1	**1**	**0 – 1**	**1 – 2**	**0 – 1**	**0**	**0**	**0 – 2**	LL, GT	5% IR
Duracade®	Cry1Ab, Cry1Fa mCry3A, eCry3.1Ab	**1**	**0 – 1**	**1 – 2**	**1 – 2**	**0**	**0**	**0 – 2**	LL, GT	5% IR
DuracadeViptera® op	Cry1Ab, Cry1Fa, Vip3A mCry3A, eCry3.1Ab	**2**	**1 – 2**	**1 – 2**	**1 – 3**	**1**	**1**	**0 – 2**	LL, GT	5% IR
Optimum® AcreMax® XTreme	Cry1Ab, Cry1Fa Gpp34/Tpp35Ab1, mCry3A	**1**	**0 – 1**	**1 – 2**	**0 – 1**	**0**	**0**	**0 – 2**	LL, RR2	5% IR
Qrome®	Cry1Ab, Cry1Fa Gpp34/Tpp35Ab1, mCry3A	**1**	**0 – 1**	**1 – 2**	**0 – 1**	**0**	**0**	**0 – 2**	LL, RR2	5% IR
SmartStax® RIB Complete® (Bayer)	Cry1Fa, Cry1A.105/Cry2Ab2 Cry3Bb1, Gpp34/Tpp35Ab1	**1**	**0 – 2**	**2 – 3**	**2 – 3**	**0**	**0**	**0 – 2**	LL, RR2	5% IR
SmartStax® Enlist™ (Corteva™)	Cry1Fa, Cry1A.105/Cry2Ab2 Cry3Bb1, Gpp34/Tpp35Ab1	**1**	**0 – 2**	**2 – 3**	**2 – 3**	**0**	**0**	**0 – 2**	LL, RR2, ENL	5% IR
SmartStax® Refuge Advanced (Corteva™)	Cry1Fa, Cry1A.105/Cry2Ab2 Cry3Bb1, Gpp34/Tpp35Ab1	**1**	**0 – 2**	**2 – 3**	**2 – 3**	**0**	**0**	**0 – 2**	LL, RR2	5% IR
SmartStax® (Corteva™)	Cry1Fa, Cry1A.105/Cry2Ab2 Cry3Bb1, Gpp34/Tpp35Ab1	**1**	**0 – 2**	**2 – 3**	**2 – 3**	**0**	**0**	**0 – 2**	LL, RR2	5% IR
ABOVE AND BELOW GROUND TRAIT PACKAGES THAT INCLUDE RNAi TECHNOLOGY										
SmartStax®PRO with RNAi Technology (Bayer)	Cry1Fa, Cry1A.105/Cry2Ab2 Cry3Bb1, Gpp34/Tpp35Ab1, DvSnf7	**1**	**0 – 2**	**2 – 3**	**2 – 3**	**0**	**0**	**1 – 3**	LL, RR2	5% IR
Vorceed™Enlist™	Cry1Fa, Cry1A.105/Cry2Ab2 Gpp34/Tpp35Ab1, Cry3Bb1, DvSnf7	**1**	**0-2**	**2-3**	**2-3**	**0**	**0**	**1 – 3**	LL, RR2, ENL	5% IR
VT4PRO™ with RNAi Technology (Bayer)	Cry1A.105/Cry2Ab2, Vip3A Cry3Bb1, DvSnf7	**1**	**1 – 3**	**2**	**3**	**1**	**1**	**1– 2**	RR2	5% IR

ABOVE GROUND ONLY TRAIT PACKAGES (WITHOUT CORN ROOTWORM TRAITS)										
Trade Name	**Insecticidal Protein(s)/RNAi Technology** **1st Line = Above Ground** **2nd Line = Below Ground**	**# of Insecticidal Traits Providing Protection ***							**Herbicide Tolerance**	**Refuge % & Location**
		Above Ground						**Below Ground**		
		BCW	**CEW**	**ECB**	**FAW**	**TAW**	**WBC**	**CRW**		
Agrisure®Above	Cry1Ab, Cry1Fa	**1**	**0 – 1**	**1 – 2**	**0 – 1**	**0**	**0**	**0**	LL, GT	5% IR
Agrisure® 3120 E-Z Refuge®	Cry1Ab, Cry1Fa	**1**	**0 – 1**	**1 – 2**	**0 – 1**	**0**	**0**	**0**	LL, GT	5% IR
Viptera®	Cry1Ab, Cry1Fa, Vip3A	**2**	**1 – 2**	**1 – 2**	**1 – 2**	**1**	**1**	**0**	LL, GT	5% IR
Optimum® AcreMax®	Cry1Ab Cry1Fa	**1**	**0 – 1**	**1 – 2**	**0 – 1**	**0**	**0**	**0**	LL, RR2	5% IR
Optimum® AcreMax® Leptra®	Cry1Ab, Cry1Fa, Vip3A	**2**	**1 – 2**	**1 – 2**	**1 – 2**	**1**	**1**	**0**	LL, RR2	5% IR
PowerCore®™ Refuge Advanced®	Cry1Fa, Cry1A.105/Cry2Ab2	**1**	**0 – 2**	**2 – 3**	**2 – 3**	**0**	**0**	**0**	LL, RR2	5% IR
PowerCore® Enlist®™ Refuge Advanced®	Cry1Fa, Cry1A.105/Cry2Ab2	**1**	**0 – 2**	**2 – 3**	**2 – 3**	**0**	**0**	**0**	LL, RR2, ENL	5% IR
Trecepta® RIB Complete®®	Vip3A, Cry1A.105/Cry2Ab2	**1**	**1 – 3**	**2**	**3**	**1**	**1**	**0**	RR2	5% IR
VT Double PRO® RIB Complete®	Cry1A.105/Cry2Ab2	**0**	**0 – 2**	**2**	**2**	**0**	**0**	**0**	RR2	5% IR

SWEET CORN PRODUCTS ABOVE GROUND ONLY TRAIT PACKAGES (WITHOUT CORN ROOTWORM TRAITS)										
Attribute II Series (Syngenta)	Cry1Ab, Vip3A	**1**	**0 – 1**	**1**	**1**	**1**	**1**	**0**	LL	No refuge needed if stubble is destroyed within 30 days
SWEET CORN PRODUCTS ABOVE AND BELOW GROUND TRAIT PACKAGES										
Performance Series	Cry1A.105/Cry2Ab2 Cry3Bb1	**0**	**0 – 2**	**2**	**2**	**0**	**0**	**0 – 1**	RR2	No refuge needed if stubble is destroyed within 30 days

# of Insecticidal Proteins:** Where ranges are given under each pest, the protein may no longer be effective or has reduced effectiveness for the pest listed. See table titled "Resistance Status of Insecticidal Proteins for Each Target Pest*" on page 4** for known resistance cases. Always try to select hybrids with more than one effective insecticidal protein against your target pest.

ABBREVIATIONS AND TERMS USED IN THESE TABLES

Bt = *Bacillus thuringiensis* (naturally occurring soil bacteria) that produces proteins that are toxic to specific insects

RNAi = RNA interference; a gene silencing process initiated by double-stranded ribonucleic acid (dsRNA). Must be paired with an effective Bt protein(s) to work against the target pest and reduce risk of resistance.

IR = refers to Integrated Refuge, where non-Bt refuge hybrid seed has been pre-mixed with Bt hybrid seed in the bag.

Above Ground = Lepidoptera (caterpillars)

Below Ground = Coleoptera (beetles); specifically corn rootworm

TARGET INSECT ABBREVIATIONS	
BCW	Black cutworm
CEW	Corn earworm
ECB	European corn borer
FAW	Fall armyworm
TAW	True armyworm
WBC	Western bean cutworm
CRW	Corn rootworm

HERBICIDE TOLERANCE TRAIT ABBREVIATIONS*	
LL	LibertyLink® / Glufosinate tolerant
GT	Glyphosate tolerant
RR2	Roundup Ready®/Glyphosate tolerant
ENL	Enlist 2,4-D, FOPS
***Note:** Herbicide tolerances listed are for the non-Integrated Refuge products. IR products may have different herbicide tolerances and herbicide selection should be based on the properties of the refuge hybrid.	

FIELD CORN TRADE NAMES AND THEIR 'EVENTS' (GENE TRANSFORMATIONS)

Trade Name	**Event**	**Bt Protein(s) Produced**	**RNAi Technology**
Agrisure CB/LL	Bt11	Cry1Ab	
Agrisure Duracade	5307	eCry3.1Ab	
Agrisure RW	MIR604	mCry3A	
Agrisure Viptera	MIR162	Vip3Aa20 (Vip3A)	
Herculex I (HXI)	TC1507	Cry1Fa	
Herculex CRW	DAS-59122-7	Gpp34/Tpp35Ab1 (formerly known as Cry34/35Ab1)	
None – part of Qrome	DP-4114	Cry1Fa + Gpp34/Tpp35Ab1	
Yieldgard Corn Borer	MON810	Cry1Ab	
Yieldgard Rootworm	MON863	Cry3Bb1	
Yieldgard VT Pro	MON89034	Cry1A.105/Cry2Ab2	
Yieldgard VT Rootworm	MON88017	Cry3Bb1	
N/A	MON87411	Cry3Bb1	DvSnf7

RESISTANCE STATUS OF INSECTICIDAL PROTEINS/RNAi TECHNOLOGY FOR EACH TARGET PEST			
Target Pest	**Effective Insecticidal Proteins)**	**Bt Proteins of Confirmed Resistance or Unexpected Damage Reports - indicated as such (widespread or local)**	**Bt Proteins with No Activity on Pest**
Black cutworm (BCW)	Cry1Fa Vip3A	None	Cry1Ab Cry1A.105/Cry2Ab2
Corn earworm (CEW)	Vip3A	**Cry1Ab** in United States and Canada **Cry1A.105/Cry2Ab2** in United States and Canada	Cry1Fa
European corn borer (ECB)	Cry1Ab* Cry1A.105 x Cry2Ab2* Cry1Fa*	**Cry1Ab** resistance has been found in Nova Scotia (2022); unexpected damage found in New Brunswick and Connecticut in 2023 and Nova Scotia (2025). **Cry1A.105** resistance found in Cry1Fa-resistant populations collected in Nova Scotia, Quebec (2022), New Brunswick (2023), Saskatchewan and Alberta (2025); unexpected damage found in New Brunswick (2023 and 2025), Connecticut (2023), and PEI (2025). **Cry2Ab2** unexpected damage observed in New Brunswick & Connecticut (2023 & 2024) and Nova Scotia and Quebec (2024). **Cry1Fa** resistance has been found in Nova Scotia (2019), Quebec (2019), Manitoba (2020), New Brunswick (2023), Saskatchewan and Alberta (2025); unexpected damage in PEI (2025).	Vip3A
Fall armyworm (FAW)	Cry1Fa* Cry1A.105 x Cry2Ab2 Vip3A	**Cry1Fa** in southern United States	Cry1Ab
True armyworm (TAW)	Vip3A	None	Cry1Ab, Cry 1F Cry1A.105/Cry2Ab2
Western bean cutworm (WBC)	Vip3A	**Cry1Fa** widespread in United States and Canada	Cry1Ab Cry1A.105/Cry2Ab2
Corn rootworm (CRW)	Cry3Bb1* Gpp34/Tpp35Ab1 * mCry3A* eCry3.1Ab* dvSnf7	**Resistance to multiple proteins is suspected in some Ontario populations. Pyramid hybrids may experience injury.** **Cry3Bb1** in the United States and Ontario. **Gpp34/Tpp35Ab1** in the United States, unexpected damage in Ontario. **mCry3A** in the United States and Ontario. **eCry3.1Ab** in the United States, unexpected damage in Ontario.	

*References for reported resistance:
https://www.texasinsects.org/uploads/4/9/3/0/49304017/bttraittable_citations_march2025.pdf

PROVINCIAL CONTACTS FOR UNEXPECTED INJURY CASES			
Province	**Contact**	**Phone**	**Email**
Nova Scotia	Caitlin Congdon	902-698-9473	ccongdon@perennia.ca
PEI	Shauna Barry Suqi Liu	902-314-0388 902-218-2653	slbarry@gov.pe.ca sxliu@gov.pe.ca
New Brunswick	Jason Wells	506-432-2150	jason.wells@gnb.ca
Québec	Julien Saguez Brigitte Duval	450-464-2715 ext. 249 819-293-8501 ext. 4432	julien.saguez@cerom.qc.ca brigitte.duval@mapaq.gouv.qc.ca
Ontario	Tracey Baute	519-360-7817	tracey.baute@ontario.ca
Manitoba	John Gavloski	204-750-0594	john.gavloski@gov.mb.ca
Saskatchewan	Jim Tansey	306-787-4669	james.tansey@gov.sk.ca
Alberta	Amanda Jorgensen	780-264-6708	amanda.jorgensen@gov.ab.ca
British Columbia	Tracy Hueppelsheuser	778-666-0519	tracy.hueppelsheuser@gov.bc.ca

Key Points When Selecting Bt and RNAi Corn Hybrids for Pest Control:

1. No one insecticidal protein controls all corn pests. Know your primary pest of concern and select hybrids that contain proteins that provide effective control. Most hybrids contain multiple proteins to control ECB and/or CRW but may not target your primary pest of concern.
2. Reduce resistance risk by selecting hybrids containing more than one protein against your primary pest.
3. If only one protein is available to control your primary pest concern, do not use hybrids containing that protein every year to reduce the risk of the pest developing resistance to that protein.
4. Growers should avoid repeated use of any management tool and implement recommended best management practices, especially crop rotation to a non-host crop, in situations where high corn rootworm populations are observed and/or a resistant population is suspected.
5. Note any potential resistance cases mentioned for each pest. Some resistance cases are local or regional while others are widespread. Resistant pest populations that migrate from the southern US can influence the effectiveness of Bt proteins in Canada, as is the case with corn earworm and fall armyworm.
6. Scout and report any injury found by pests that should be controlled by the Bt hybrid being used. If injury has been found, contact your seed agronomist, provincial entomologist/specialist and/or Tracey Baute, OMAFA, Chair of the Canadian Corn Pest Coalition.

Visit the Canadian Corn Pest Coalition and Manage Resistance Now websites for more information on corn pests, Bt stewardship, and resistance management practices.

CANADIAN CORN PEST COALITION
LA COALITION CANADIENNE CONTRE LES RAVAGEURS DU MAIS
cornpest.ca

MANAGE RESISTANCE Now
manageresistancenow.ca