



Protector

Protector offers the most advanced genetics on the market for sweet corn producers, with industry-leading disease and above ground insect control. This shipper offers consistent, high-yielding performance across most growing areas and seasons.

FEATURES

- Includes the Attribute® II trait stack for superior lepidopteran control, including Western bean cutworm
- Tolerance to glyphosate and glufosinate herbicides approved for application over the top of Attribute II sweet corn
- Strong husk protection, straight rowing and excellent tip fill

BENEFITS

- Uniform ears ideal for shipping
- Attribute II trait stack maximizes yield and productivity by delivering unsurpassed control of lepidopteran pests
- Herbicide tolerance allows for flexibility in weed management program to ensure control of problem weeds
- Consistently high yields provide continual profit opportunities for growers

TECHNICAL DATA

Endosperm type	Sh2
Kernel color	Yellow
Approx. days to maturity	79
Ear length (in)	8
Ear diameter (in)	1.8
Row number	18
Husk appearance	Medium dark green with medium-long flags
Disease resistance*	HR: Bm / Et / Ps: (Rp1-d), Ps (Rp1-i) / Pst / MDMV

DISEASE ABBREVIATION KEY

Bm	Southern corn leaf blight caused by <i>Bipolaris maydis</i> (= <i>Helminthosporium maydis</i>)
Et	Northern corn leaf blight caused by <i>Exserohilum turcicum</i> (= <i>Helminthosporium turcicum</i>)
MDMV	Maize dwarf mosaic virus
Ps	Common rust caused by <i>Puccinia sorghi</i> (Rp1-d, e, g, i) controlled by the Rp1-d, e, g, and i genes (see *footnote below)
Pst	Stewart's wilt caused by <i>Pantoea stewartii</i> (= <i>Erwinia stewartii</i>)
HR	High resistance
Sh2	Supersweet

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The introduction of the Attribute II trait stack continues the Syngenta tradition of providing high-performance traits to sweet corn growers, now with the added power of Vip3A – a unique mode of action proprietary to Syngenta. The combination of Vip3A with Cry1Ab, the protein found in Attribute trait stack, offers excellent control of key yield-robbing insects including European corn borer, corn earworm and fall armyworm. Attribute II is also highly effective against Western bean cutworm, which has emerged as a serious and growing threat in many production areas.

How VIP Differs from Cry Proteins

Both vegetative insecticidal proteins (VIP) and crystalline proteins (Cry) are derived from *Bacillus Thuringiensis* (Bt). However, VIPs are an entirely new class of proteins that differ from their Cry protein counterparts. Vip3A binds to different receptors than Cry proteins within an insect's mid-gut membrane. Researchers have identified changes in the binding process as a factor in the development of resistant insects. Expressing both VIP and Cry proteins, the Attribute II trait stack greatly reduces the risk of insect resistance.

ATTRIBUTE II PROVIDES BROAD-SPECTRUM CONTROL OF KEY SWEET CORN PESTS

Event	Protein	European Corn Borer	Corn Earworm	Fall Armyworm	Black Cutworm
Attribute II	Vip3A, Cry1Ab	E	E	E	VG
Attribute	Cry1Ab	E	F-G	G	P
Seminis Performance Series™	Cry1A.105, Cry2Ab	E	VG	E	P

Control rating: E= excellent, VG= very good, F-G= fair to good, G= good, F=fair, P-F= poor to fair, and P= poor.

Source: K. Flanders, et al. University of Alabama Cooperative Extension System 2010



**Footnote to sweet corn: the effectiveness of rust resistance genes in sweet corn will be determined by the variation of common rust races in each growing environment. Rust races are continually evolving, so that rust resistance genes that were effective in the past may suddenly and unexpectedly lose their effectiveness. It is necessary to scout for rust disease development, so that alternative disease control strategies can be deployed in the event that major gene resistance proves ineffective. Syngenta Seeds is an associate member of the International Seed Federation and supports the initiative to use consistent terminology to describe plant diseases and resistance. For further information, see http://www.worldseed.org/ist/diseases_resistance.html.

*For more information, visit www.syngenta.com/vegetables or contact your local Syngenta reseller or representative.

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