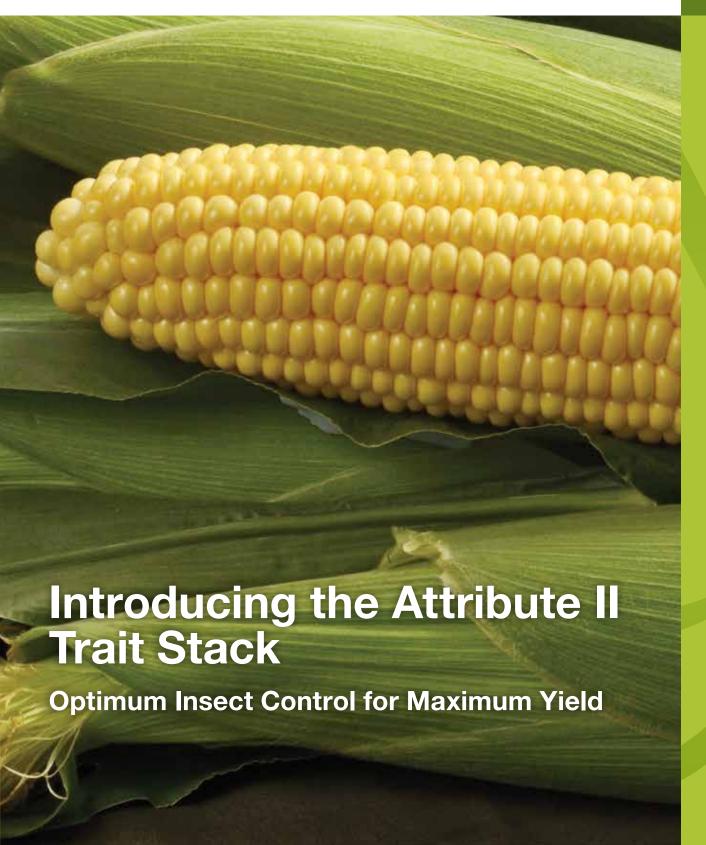




syngenta®





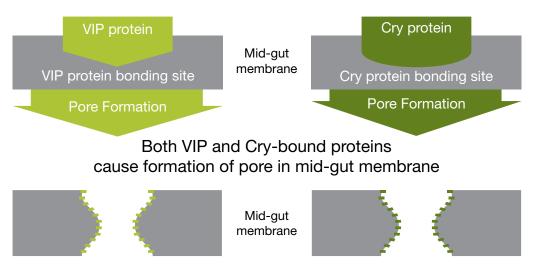
The Attribute® II trait stack from Syngenta is the latest breakthrough in above-ground insect protection for sweet corn, delivering unsurpassed control of lepidopteran pests to maximize yield, quality and productivity.

#### **How It Works**

The introduction of the Attribute II trait stack continues the Syngenta tradition of providing high-performance traits to sweet corn growers, and now it has the added power of Vip3A – a unique mode of action proprietary to Syngenta. The combination of Vip3A with Cry1Ab, the protein found in Attribute sweet corn varieties, 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, Attribute II insect protection greatly reduces the risk of insect resistance.



Pore formation results in insect death

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	Е	F-G	G	Р
Seminis Performance Series™	Cry1A.105, Cry2Ab	E	VG	E	Р

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

## **Attribute II Spectrum of Control**

- Beet Armyworm (Spodoptera exigua)
- Black Cutworm (Agrotis ipsilon)
- Common Stalk Borer (Papaipema nebris)
- Corn Earworm (Helicoverpa zea)

- Dingy Cutworm (Feltia jaculifera)
- European Corn Borer (Ostrinia nubilalis)
- Fall Armyworm (Spodoptera frugiperda)
- Southern Cornstalk Borer (Diatraea crambidoides)

- Southwestern Corn Borer (Diatraea grandiosella)
- Sugarcane Borer (Diatraea saccharalis)
- Western Bean Cutworm (Striacosta albicosta)

# **The Complete Package**

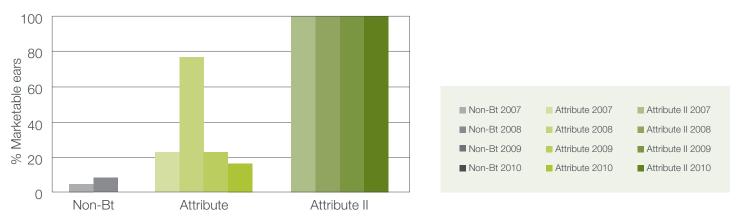
In addition to its broad-spectrum insect control, the Attribute II trait stack includes tolerance to Liberty® herbicide. Attribute II gives growers the flexibility to cater their herbicide program to effectively address problem weeds while reaping the benefits of its superior insect control.





### **Attribute II Performance Results**

#### **Attribute II Increases Marketable Yields**



Source: G. Dively, Tests conducted at the University of Maryland over multiple years in untreated, replicated plots.

#### **Attribute II Decreases Kernels Consumed**



Attribute II provides unsurpassed, broad-spectrum insect control, thereby reducing ear damage and increasing yield.

#### Conventional non-Bt



Source: G. Dively, University of Maryland



## Attribute II









