

Overview of Insect Management Traits



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Key Lepidopteran Pests of Cotton



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Tobacco Budworm
Heliothis virescens (F.)



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Bollworm
Helicoverpa zea (Boddie)



Bt Cotton Technologies

<u>Technology</u>	<u>Bt Protein</u>	<u>Source</u>
BollGard	Cry1 Ac	Monsanto
BollGard II	Cry1 Ac + Cry2 Ab	Monsanto
WideStrike	Cry1 F + Cry1 Ac	Dow
TwinLink	Cry1 Ab + Cry2 Ae	Bayer

Bt Cotton Activity Against Bollworm

No
Control

Excellent
Control



BollGard

WideStrike

TwinLink

BollGard II



Bt Corn Technologies

Lepidoptera

Agrisure CB/LL

Herculex I

YieldGard CB

YieldGard VT Pro

Agrisure Viptera 3110

Optimum Intrasect

Rootworm

Agrisure RW

Herculex RW

YieldGard RW

YieldGard VT RW

Lep. and Rootworm

Agrisure CB/LL/RW

Agrisure 3000 GT

Herculex Xtra

YieldGard Plus

YieldGard VT Triple

YieldGard VT Triple Pro

Genuity SmartStax

Agrisure Viptera 3111

Technologies for Lepidoptera

<u>Technology</u>	<u>Bt Protein</u>	<u>Source</u>
Agrisure CB/LL Agrisure CB/LL/RW Agrisure 3000 GT	Cry1 Ab	Agrisure/Syngenta
Herculex I Herculex Extra	Cry1 F	Dow
YieldGard CB YieldGard Plus YieldGard VT Triple	Cry1 Ab	Monsanto
Optimum Intrasect	Cry1 Ab + Cry1 F	Pioneer
YieldGard VT Pro YieldGard VT Triple Pro	Cry1 A.105 + Cry2 Ab	Monsanto
Genuity SmartStax	Cry1 A.105 + Cry2 Ab + Cry1 F	Monsanto/Dow
Agrisure Viptera 3111 Agrisure Viptera 3110	Cry1 Ab + Vip3A	Agrisure/Syngenta

Activity Against Lepidoptera

<u>Technology</u>	<u>Corn Borers</u>	<u>Corn Earworm</u>	<u>Fall Armyworm</u>
Agrisure CB/LL			
Agrisure CB/LL/RW	Excellent	Fair	Fair-Good
Agrisure 3000 GT			
Herculex I	Excellent	Poor	Good
Herculex Xtra			
YieldGard CB			
YieldGard Plus	Excellent	Fair	Fair-Good
YieldGard VT Triple			
Optimum Intrasect	Excellent	Fair	Good
YieldGard VT Pro			
YieldGard VT Triple Pro	Excellent	Good-Very Good	Excellent
Genuity SmartStax	Excellent	Good-Very Good	Excellent
Agrisure Viptera 3111			
Agrisure Viptera 3110	Excellent	Excellent	Excellent

Bt Corn Activity Against FAW

No
Control

Excellent
Control



Agrisure CB
YieldGard CB

Herculex
Optimum Intrasect

VT Triple Pro
SmartStax
Viptera

Bt Corn Activity Against Bollworm

No
Control

Excellent
Control



Herculex Agrisure CB
YieldGard CB
Optimum Intrasect

VT Triple Pro
SmartStax

Viptera

Refuge Requirements for Lep. Bt Technologies

<u>Technology</u>	<u>Refuge Requirements</u>
Agrisure CB/LL	
Agrisure CB/LL/RW	50%
Agrisure 3000 GT	
Herculex I	50%
Herculex Xtra	
YieldGard CB	
YieldGard Plus	50%
YieldGard VT Triple	
Optimum Intrasect	20%
YieldGard VT Pro	
YieldGard VT Triple Pro	20%
Genuity SmartStax	20%
Agrisure Viptera 3111	
Agrisure Viptera 3110	20%

