

Corn Flea Beetle Management in Sweet Corn



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Corn Flea Beetle



- **Vector of Stewart's bacterial wilt**
 - **Varies among varieties**
 - **Worst on early yellow varieties**
 - **Greatest effect if infection < 7-leaf stage**
- **Worse after mild winter**



Corn Flea Beetle Index

- **Winter temperature model**
- **Sum of mean temperatures**
Dec. + Jan. + Feb.
- **Used to predict severity of Stewart's bacterial wilt**

Corn Flea Beetle Index

<i>Flea beetle index</i>	<i>Predicted Severity of Stewart's Wilt</i>
>100	Severe
95-100	Moderate
90-94	Light
<90	Negligible

Corn Flea Beetle Index

Ohio Examples

Site	Corn flea beetle index, by year									
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Fremont	87	76	102	68	78	78	85	79	87	79
South Charle- ston	95	82	104	77	86	93	96	90	90	84
Jackson	105	93	110	90	96	106	106	98	100	94

Corn Flea Beetle Index

<i>Flea beetle index</i>	<i>Predicted Stewart's Wilt Severity</i>	<i>Number of Ohio sites, by year</i>						
		<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>
>100	Severe	0	0	3	4	0	0	0
95-100	Moderate	0	2	1	4	1	2	1
90-94	Light	2	1	3	2	2	2	1
<90	Negligible	9	8	3	1	6	6	8

Management of Corn Flea Beetle & Stewarts bacterial wilt



- **Primary strategy**
 - **Host plant resistance**
- **Secondary strategy**
 - **Insecticide**

Stewarts Wilt: Host Plant Resistance

- **Long term sweet corn disease rating program at Univ. Illinois**
 - See listings on website
- **674 varieties**
- **Rated for 4 levels of resistance**
 - R = Highly resistant (1-2)
 - MR = Moderately resistant (3-4)
 - MS = Moderately susceptible (6-7)
 - S = Highly susceptible (8-9)

Stewarts wilt: resistant varieties

(ratings 1, 2, or 3)

<i>Yellow</i>	<i>Bicolor</i>	<i>White</i>
Eliminator (su)	Sweet Sue (su)	Silver Queen (se)
Miracle (se)	Ambrosia (se)	Argent (se)
Merlin (se)	Encore (se)	Cinderella (se)
Incredible (se)	Accord (se)	Imaculata (se)
Tuxedo (se)	Lancelot (se)	Sugar Queen (se)
PrimePlus (sh2)	PreciousGem (se)	Attribute 0987 (sh2)
	Candy Store (sh2)	XtraTender382A (sh2)
	Holiday (sh2)	
	Mirai 301BC (sh2)	
	Obsession (sh2)	

Insecticides for Corn Flea Beetle

- **Systemic insecticide**
 - **Commercial seed treatment**
 - Cruiser
 - Poncho
 - Gaucho
 - **Hopper box seed treatment**
 - Concur
 - Latitude
 - **Soil treatment**
 - Furadan
 - Counter
 - Thimet
 - **Foliar insecticide (non-systemic)**
 - **Sevin, Pounce, Asana, Thionex, etc.**



Interaction of Variety Selection & Insecticides

- **When to use seed treatment?**
 - **On varieties rated S or M (not R or MR)**
 - **In years after mild winter**