VEGETABLE CROPS HOTLINE

A newsletter for commercial vegetable growers prepared by the Purdue University Cooperative Extension Service

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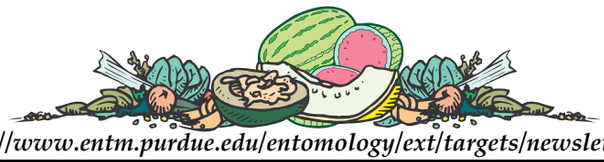

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http://www.entm.purdue.edu/entomology/ext/targets/newslett.htm

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SWEET CORN COMMON RUST-*(Jerald Pataky and Dan Egel)*-Sweet corn growers in the Midwest who control common rust by selecting resistant varieties should be prepared to scout fields and apply fungicides because a new race of the rust fungus, *Puccinia sorghi*, was widespread in North America in 1999.

For years, sweet corn growers have been able to purchase seed with the Rp1-D resistance gene. Such sweet corn is resistant to common rust. In September of 1999, Jerald Pataky of the University of Illinois found a new race of the rust fungus in Illinois, Wisconsin, Minnesota, Michigan and New York that could overcome the resistance of current sweet corn cultivars with the Rp1-D gene. If this new race of the rust fungus occurs again in 2000, most sweet corn varieties now grown will be susceptible to common rust. Sweet corn growers may have to apply fungicides to control common rust of sweet corn.

Common rust of sweet corn is recognized by the circular to elongate, cinnamon-brown pustules on both surfaces of leaves, as well as husks and tassels. Each rust pustule may produce nearly 5,000 spores in about 3 weeks. The disease is favored by cool, wet weather.

Sweet corn growers should scout fields for the presence of common rust. If highly susceptible hybrids are grown under wet conditions, fungicide applications should begin when rust pustules are first observed on plants with 8 or fewer leaves. Fungicides that are labeled for common rust of sweet corn may be found in the Midwest Vegetable Growers Production Guide (ID-56). Carefully read the label to be certain to apply the fungicide correctly.

MANURE AND FOOD SAFETY *- (Liz Maynard) -* Manure is great for improving soil and supplying nutrients to plants. But manure use can also result in environmental pollution and increased risk of food-borne illnesses. This article discusses how to minimize the risk of contaminating food with disease-causing organisms found in manure.

Manure can be home to a number of micro-organisms which make people sick. The grower can help to prevent these illnesses by reducing the chance that disease-causing microbes will get onto fresh produce. Regarding manure, this means 1) physically separating fresh manure from vegetable crops; and 2) promoting biological activity to decrease the number of dangerous microbes in the manure. Physical separation includes keeping manure away from vegetables in space and in time. Biological activity can be promoted by composting, allowing manure to age and decompose naturally, and incorporating manure into the soil.

Criteria for minimizing microbial contamination of vegetables from manure are outlined below. If you use manure, how do your practices measure up?

- Storing Manure
  - Run-off from storage area should not contaminate vegetable production fields, vegetable packing and marketing areas, or water sources used in irrigation or packing lines.
  - Wind-blown particles from stored manure should not reach vegetable production fields or vegetable packing and marketing areas.
  - Equipment used for manure or used in and around manure storage area should not contaminate vegetable production fields or vegetable packing and marketing areas.
  - Manure should be actively composted.
- Applying Raw/Fresh/Slurry Manure
  - Do not apply manure within 120 days of vegetable harvest.
  - Do not apply manure to fields where root or leafy greens crops will be grown that year.
  - Apply manure after harvest in the fall, (preferably to cover crops), or to agronomic crops.
  - Incorporate manure into soil.

GRANTS AVAILABLE TO GROWERS - *(USDA)* - The USDA's Sustainable Agriculture Research and Education (SARE) program in the North Central Region will award its ninth round of innovative producer grants in 2000. Farmers can apply for grants from $5000 to $15,000 to conduct research or education/demonstration projects that further the goals of sustainable agriculture.

A total of $350,000 is available for grants of up to $5,000 for individual producers and up to $15,000 for groups of three or more producers investigating any sustainable practice or concept. Part of the grant funds will be earmarked for special marketing and agroforestry projects in cooperation with the National Agroforestry Center and the USDA Agricultural Marketing Service.

The deadline for application is April 28, 2000. Funds will be available in mid-fall for the 2001 crop production season. Call 402-472-7081, fax 402-472-0280 or send e-mail to ncrsare@unl.edu for an application. You can also find the application at www.sare.org/ncrsare.

UPCOMING EVENTS -
For those willing to travel: Hydroponic Study Group Meetings March 28, April 25, May 23, 2000, 6:00- 9:00 p.m. Toledo Botanical Garden, Hawkins Farmhouse, 5434 Bancroft St., Toledo, Ohio. For more info: Mary Donnell, OSU Extension, 419-354-6916, or donnell.8@osu.edu

STEWART'S WILT OF CORN-(*Dan Egel and Rick Foster*)- Stewart's wilt is an infectious disease of sweet corn caused by a bacterial pathogen that is transmitted by the corn flea beetle. The severity of the disease each year is correlated with winter temperatures, i.e., the milder the winter, the more flea beetles survive, and the more severe the disease.

How bad will Stewart's wilt be this year? Severity of the disease can be determined by adding the average monthly temperatures (in degrees Fahrenheit) for the 3 winter months (December, January, and February). If the sum of these is less than 90, then the disease is not expected to be serious. If the sum is between 90 and 100, then epidemics of moderate severity are expected. Sums of greater than 100 indicate that the disease is expected to be severe and destructive.

The Table below gives the average temperatures and disease potential for several locations around the state. Severe and moderate threats of Stewart's wilt exist in an area around and south of I-70. In these areas, resistant varieties should be grown if possible.

Corn Flea Beetle/Stewart's Wilt Potential

Location	Mean Temperatures				Disease
	Dec.	Jan.	Feb.	Total	Potential
Louisville	39.3	33.7	43.2	116.2	Severe
Evansville	37.8	33.3	41.4	112.5	Severe
Bloomington	34.2	29.4	38.7	102.3	Severe
Terre Haute	34.7	28.1	38.0	100.8	Severe
Lafayette	32.9	26.6	36.7	96.2	Moderate
Muncie	32.6	25.3	35.6	93.5	Moderate
Greenfield	32.8	25.8	33.5	92.1	Moderate
South Bend	30.2	25.3	35.5	91.0	Moderate
Ft. Wayne	31.3	23.6	34.0	88.9	Low
LaPorte	30.3	24.2	32.3	86.8	Low

A list of selected sweet corn varieties with good resistance is included below. The list includes the type of sweet corn (su, se, sb, sh2), the color, the relative maturity and the seed source for each variety along with the resistance ranking (1=resistant, 9=susceptible). Dr. Gerald Pataky, a plant pathologist at the University of Illinois, compiled this list.

Type	Color	Maturity	Source	Variety	Resistance
su	Y	4	Rog	Bold	3
su	Y	5	Rog	Bonus	1
su	Y	5	Asg	Commander	3
su	Y	4	Cr	Eliminator	2
su	Y	4	Rog	GH 0934-A	2
su	Y	4	Rog	GH 0937-A	1
su	Y	5	Rog	GH 2628	2
su	Y	5	Rog	GH 2783	2
su	Y	4	HM	HMX 5371	3
su	Y	5	HM	Shield Crest	2
su	Y	5	HM	Style Pak	3
su	B	5	Rog	Bi Queen	3
su	B	5	HM	Sweet Sue	2
se	Y	5	HM	Sugar Ace SB	3
se	Y	5	SB	Sugar Ace	3
se	Y	4	Cr	Incredible	3
se	Y	5	Asg	Melody	3
se	Y	5	Mes	Merlin	3
se	Y	4	Cr	Miracle	1
se	Y	4	Sen	Seneca Sentry	2
se	Y	2	AC	Summer Flavor 73Y	3
se	Y	3	AC	Summer Flavor 79Y	1
se	Y	4	HM	Sundial	2
se	Y	4	Rog	Tender Delight	3
se	Y	5	HM	Topacio	2
se	Y	4	Mes	Tuxedo	3
se	Y	3	Asg	XPH 3123	3
se	B	3	Cr	Ambrosia	1
se	B	4	Mes	Buckeye	1
se	B	5	Mes	Encore	2
se	B	5	Mes	Lancelot	2
se	B	3	Cr	Mystique	3
se	B	4	MES	Precious Gem	3
se	B	4	Sen	Seneca Nation	1
se	B	4	Sen	Seneca SX7404 SEB	3
se	B	3	Sen	Seneca Wardance	2
se	B	3	HM	Sweet Rhythum	3
se	B	3	Sdw	Table Treat	2
se	W	4	Cr	Argent	2
se	W	2	Sen	Seneca Showshoe	3
se	W	3	HM	Silverado	3
se	W	4	AC	Summer Flavor 81W	3
sh2	Y	4	HM	Day Star	3
sh2	Y	3	Rog	GSS 9299	3
sh2	Y	5	Sdw	Jupiter	3
sh2	Y	4	Asg	Maverick	2
sh2	Y	4	Cr	Missouri	3
sh2	Y	3	Rog	Prime Plus	3
sh2	Y	3	Rog	Primetime	3
sh2	Y	4	AC	ProSweet 415R	3
sh2	Y	3	Asg	Punchline	3
sh2	Y	3	Sdw	Saturn	3
sh2	Y	3	AC	Sum. Sweet 7210	3
sh2	Y	4	AC	S. Sweet 7620	2
sh2	Y	4	AC	S. Sweet 7630	2
sh2	Y	4	AC	S. Sweet 7710	2
sh2	Y	5	Cr	Trigger	2
sh2	Y	4	HM	Ultimate	2
sh2	Y	3	Asg	XPH 3076	2
sh2	Y	4	HM	Zenith	2
sh2	B	4	Asg	Cabaret	3
sh2	B	4	HM	Candy Store	3
sh2	B	3	AC	S. Sweet 7902	1
sh2	W	5	Cr	How Sweet It Is	3
sh2	W	3	AC	S. Sweet 781 Ultra	3

Type-su=sugary; se=sugary enhancer; sh2=shrunken 2.
Color-Y=yellow; B=bicolor; W=white.
AC=Abbot & Cobb; Asg=Asgrow; Cr=Crookham; FM=Ferry Morse; HM=Harris Moran; Mes=Mesa Maize; Rog=Rogers Novartis, Sdw=Seedway; Sen=Seneca Hybrids (Seminis).

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