

A photograph of a cherry tree branch with several green cherries. The leaves are heavily affected by cherry leaf spot, showing significant yellowing and numerous small, dark, necrotic spots. The background is a dense thicket of similar branches and leaves.

**Cherry leaf spot: 2008 field
trial results**

**Northwest MI Orchard &
Vineyard Show
January 21, 2009**

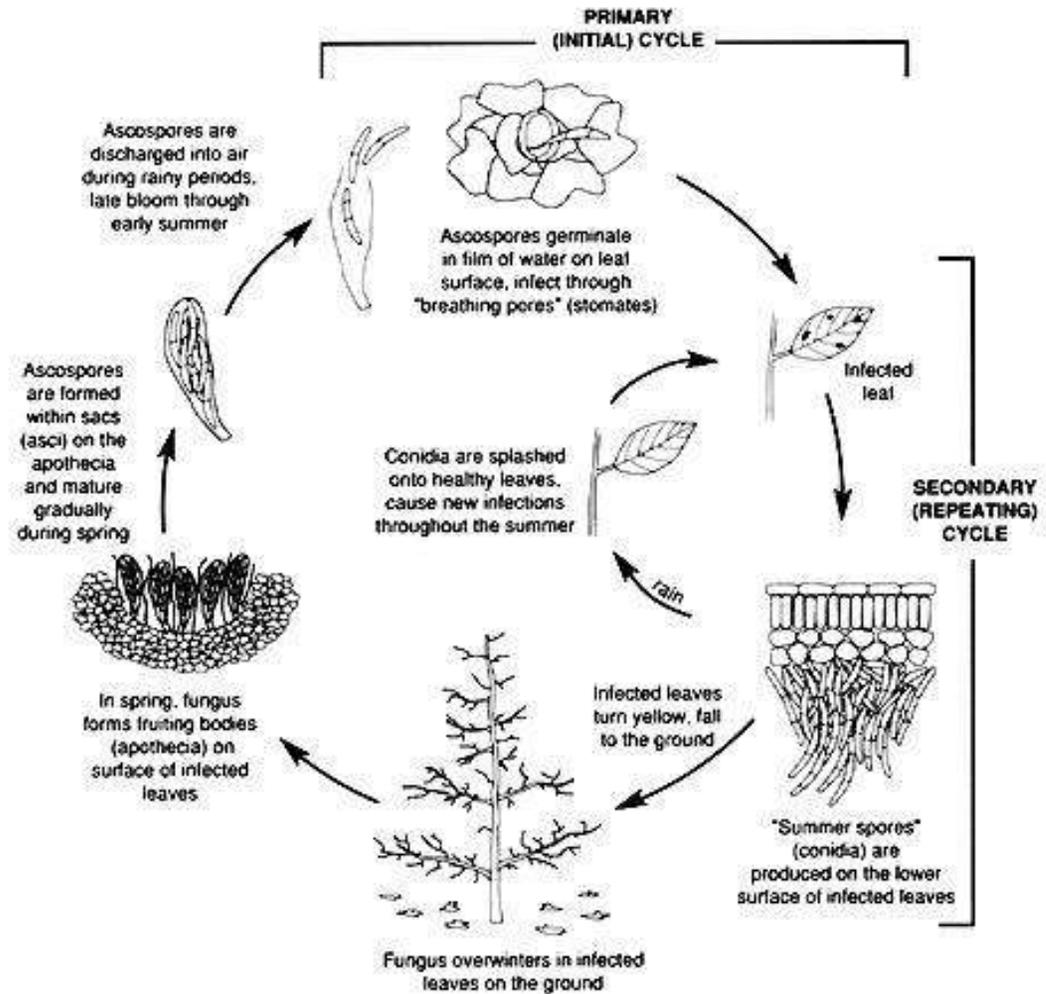
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Review of Cherry Leaf Spot Biology

Ascospore discharge:

- * Ascospores released by wetting (petal fall + 4-6 weeks)
- * > 61 F, maximum discharge
- * 50's F, reduced discharge
- * 39-46 F, minimal discharge



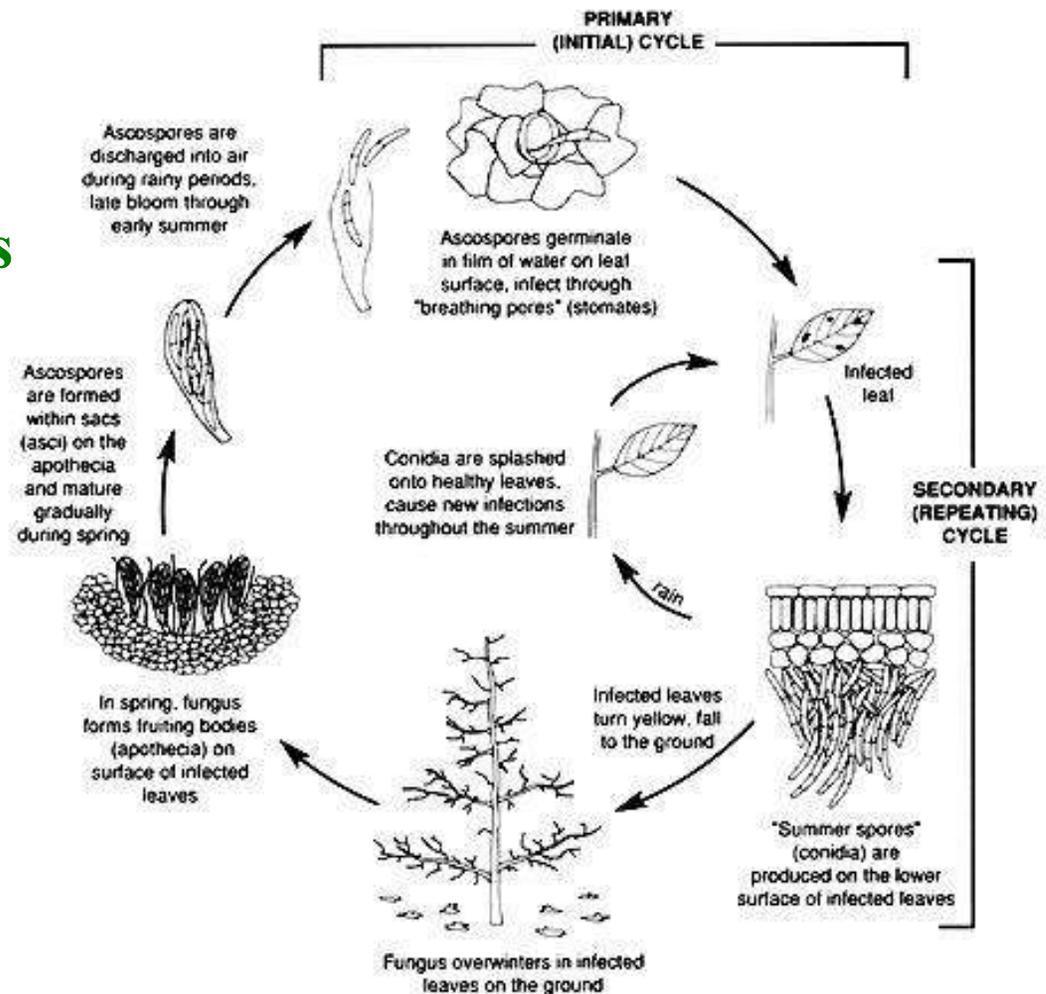
Cherry leaf spot disease cycle.

Cherry Leaf Spot -- Life Cycle

Infection conditions:

* Optimal at ~ 61-70°F (as little as 5-6 hr wetting for light infection)

* With < 24 hr wetting, can see heavy infection at temps of 57-72 °F



Cherry leaf spot disease cycle.





Early infection:
Uneven fruit ripening
Epidemic risk -- extreme
premature defoliation

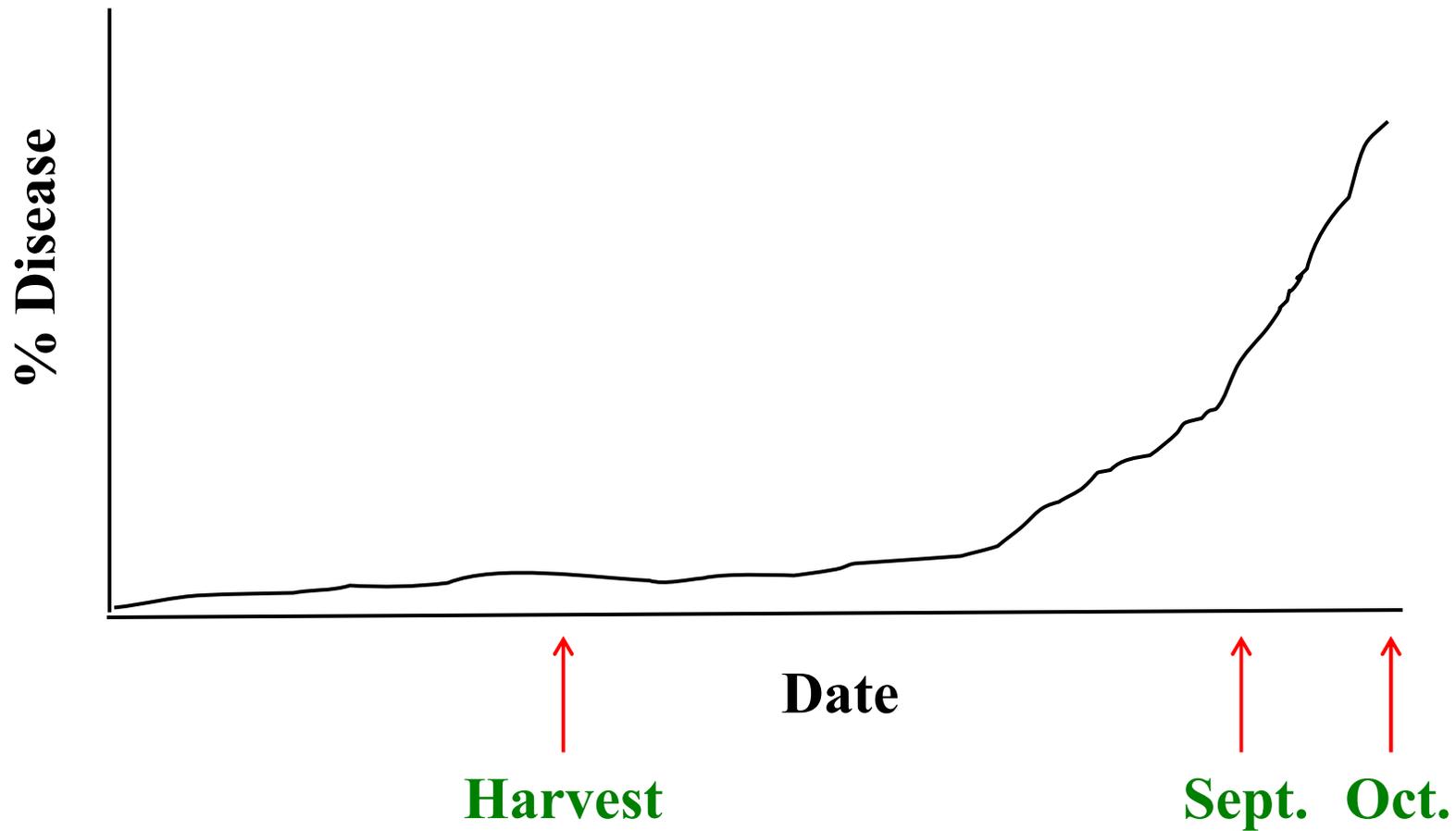




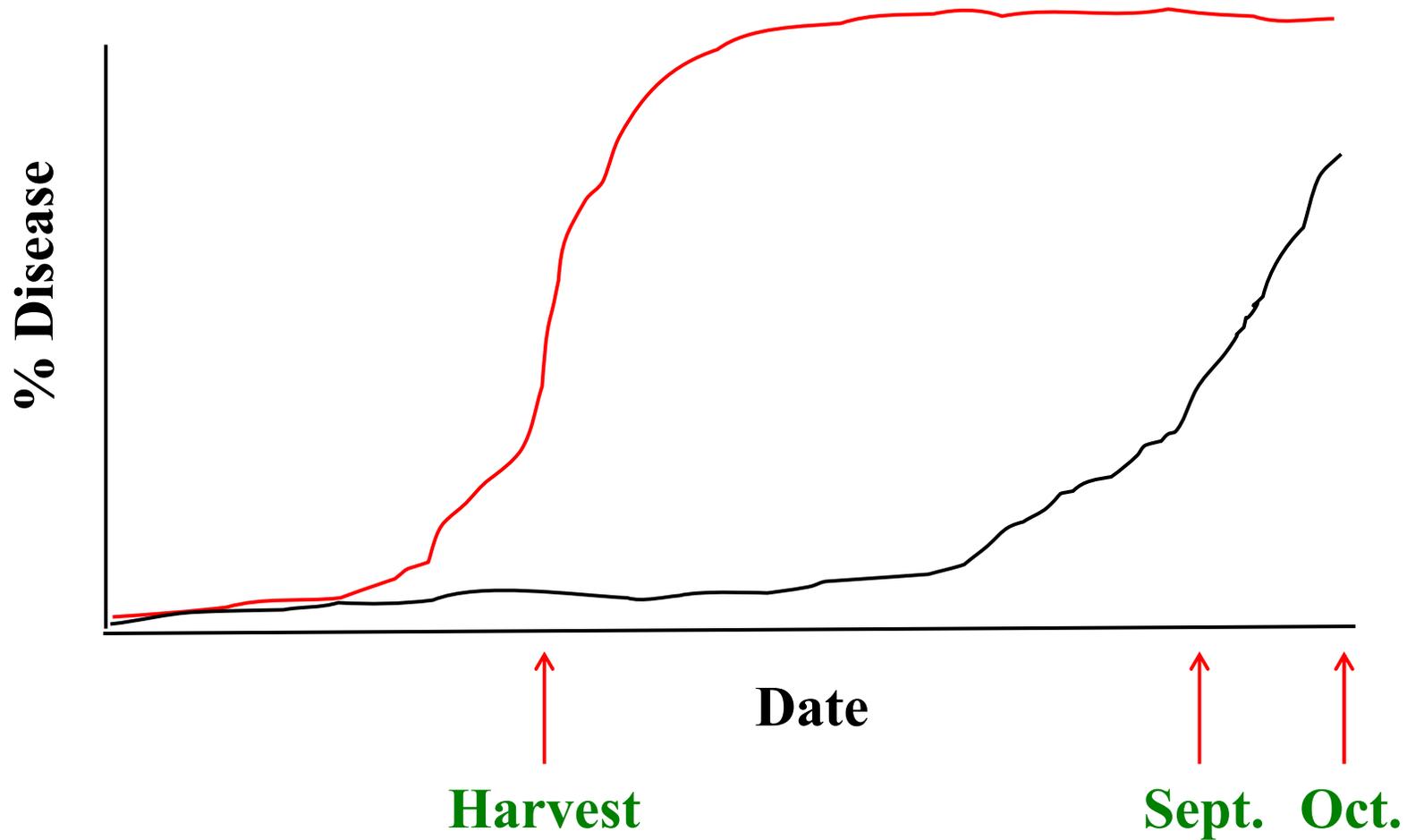
Early defoliation:

- **Reduced photosynthate storage in roots**
- **Increased susceptibility to winter injury**
- **Decreased fruit set in following season**

Fungal Disease Epidemics



Fungal Disease Epidemics



Cherry Leaf Spot Fungicides (2008)

- **Bravo**
- **SI; SI + Captan**
- **Gem (strobilurin) ***
- **Pristine (boscalid + strobilurin) ***
- **Adament (Elite + Gem) ***
- **Syllit (dodine) + Captan ***

- **8 experimental fungicide compounds**

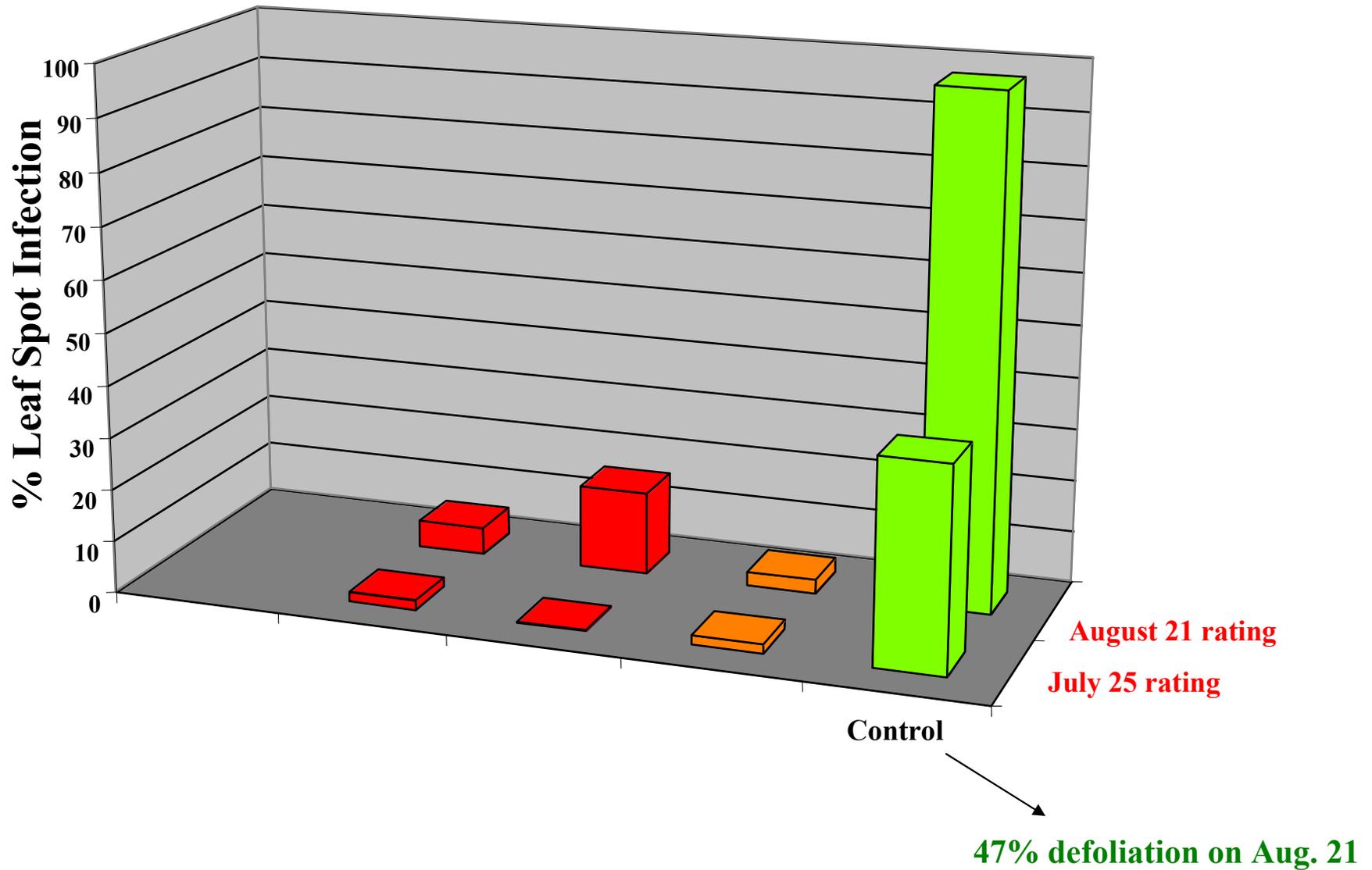
Fungal Disease Control Chemistries, Tested in 2008

- Chlorothalonil
- Sterol-inhibitors
- Strobilurins
- Boscalid
- Syllit
- Captan
- **DPX-LEM17 -- brown rot, mildew**
- **USF2016A -- leaf spot, brown rot, mildew**
- **USF2017A -- leaf spot, brown rot, mildew**
- **A8122 -- leaf spot, brown rot, mildew**
- **A16001 -- leaf spot, brown rot, mildew**
- **A13703 -- leaf spot, brown rot, mildew**
- **A15909 -- leaf spot, brown rot, mildew**
- **Inspire -- leaf spot, brown rot, mildew**

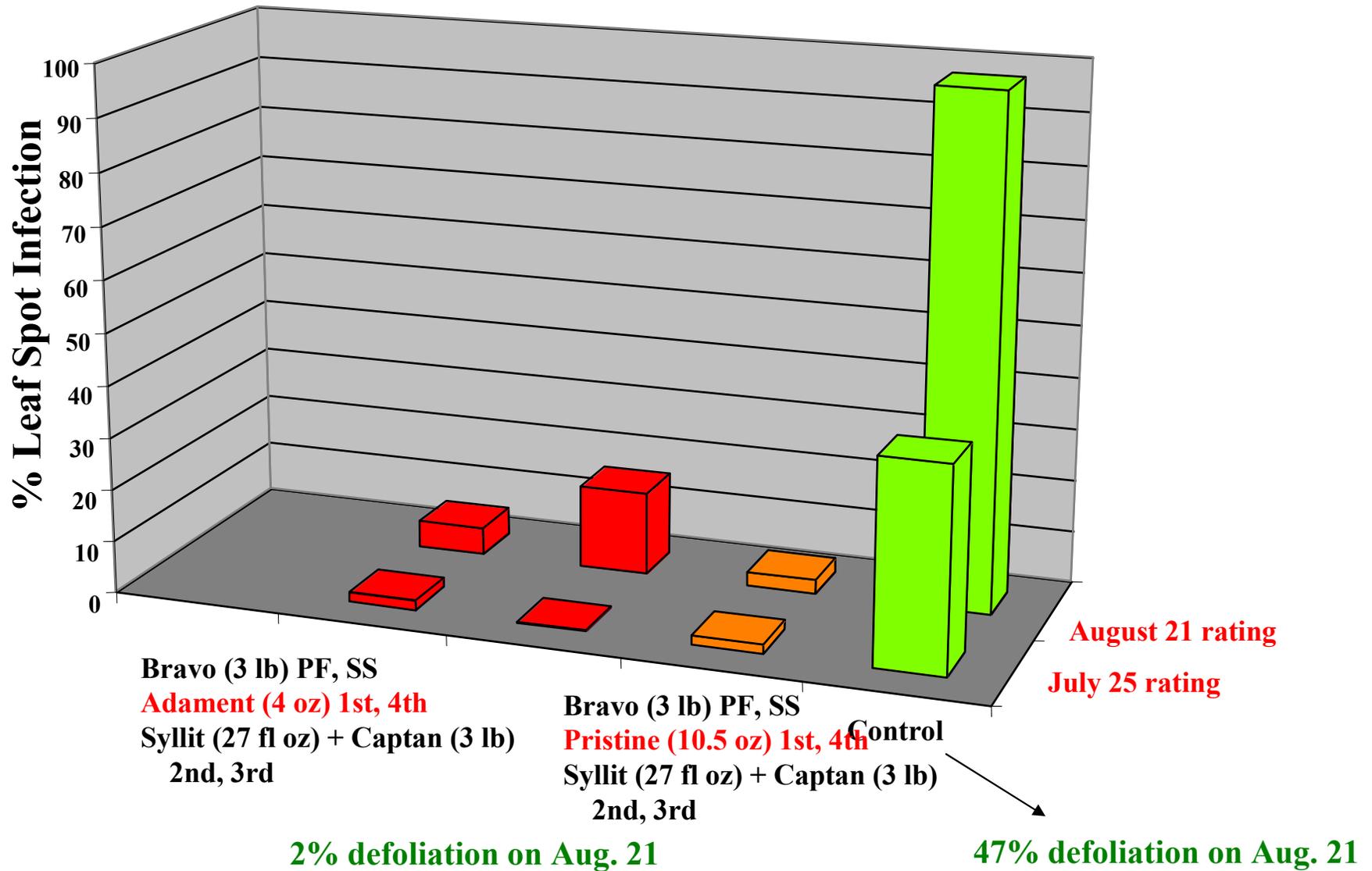
Cherry Disease Control Experimental Trials

- **Trials run at NWMHRS**
 - **Bill Klein, Myron Anderson**
- **Block of Montmorency & Balaton**
- **20 treatments**
- **Petal fall, shuck split, 1st - 4th covers**
- **Ratings at harvest, end of August**

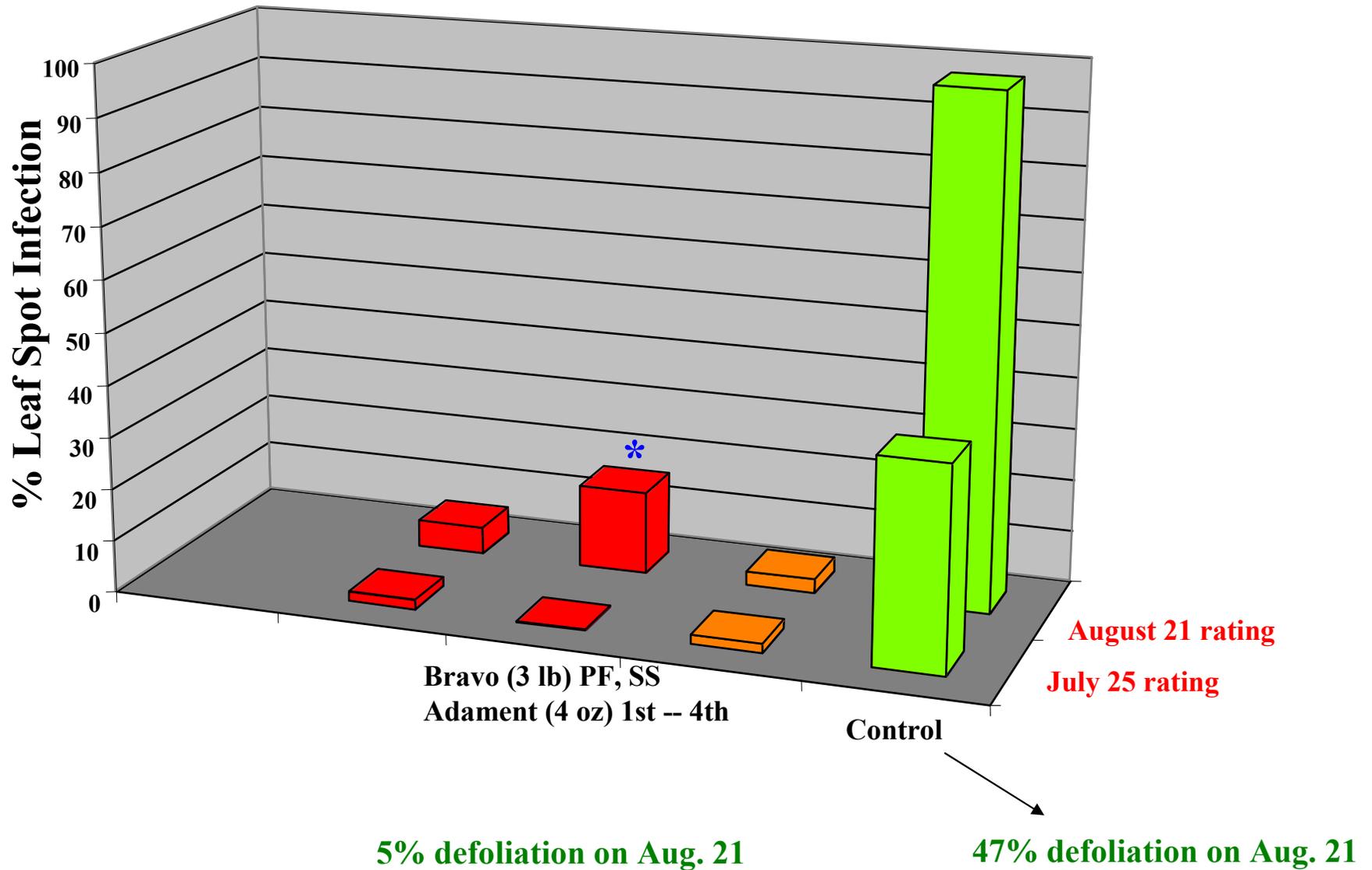
Leaf Spot Control Programs



Leaf Spot Control Programs



Leaf Spot Control Programs



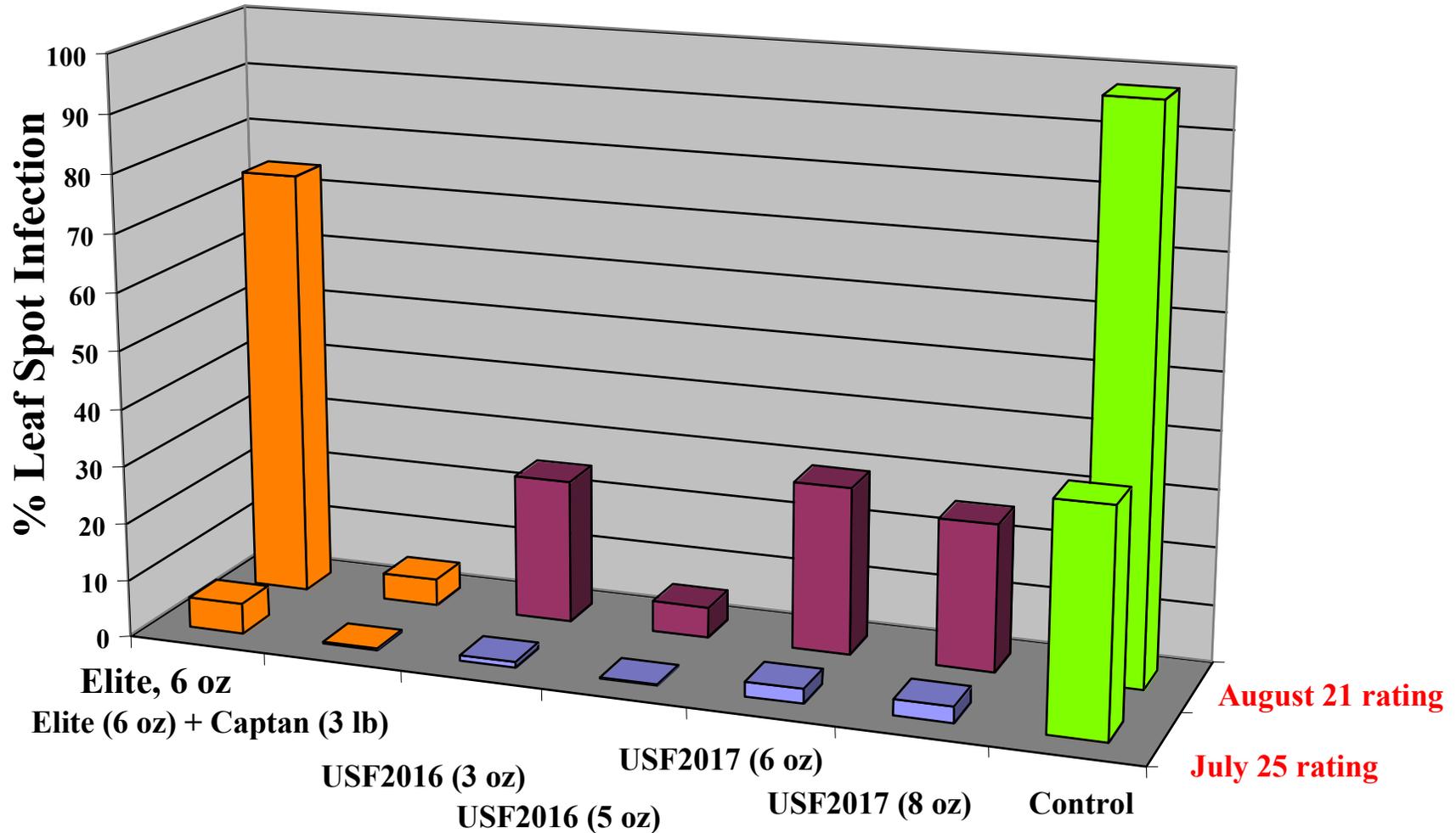
Cherry Leaf Spot Control, 2008

SI resistance effect

	% Infection		% Defoliation
	25 Jul	21 Aug	21 Aug
Elite 45WP, 6 oz	5.3 b	74.2 b	13.0 b
Elite 45WP, 6 oz + Captan 50WP, 3 lb	0.3 c	4.6 c	2.6 c
Control	38.8 a	97.4 a	47.2 a

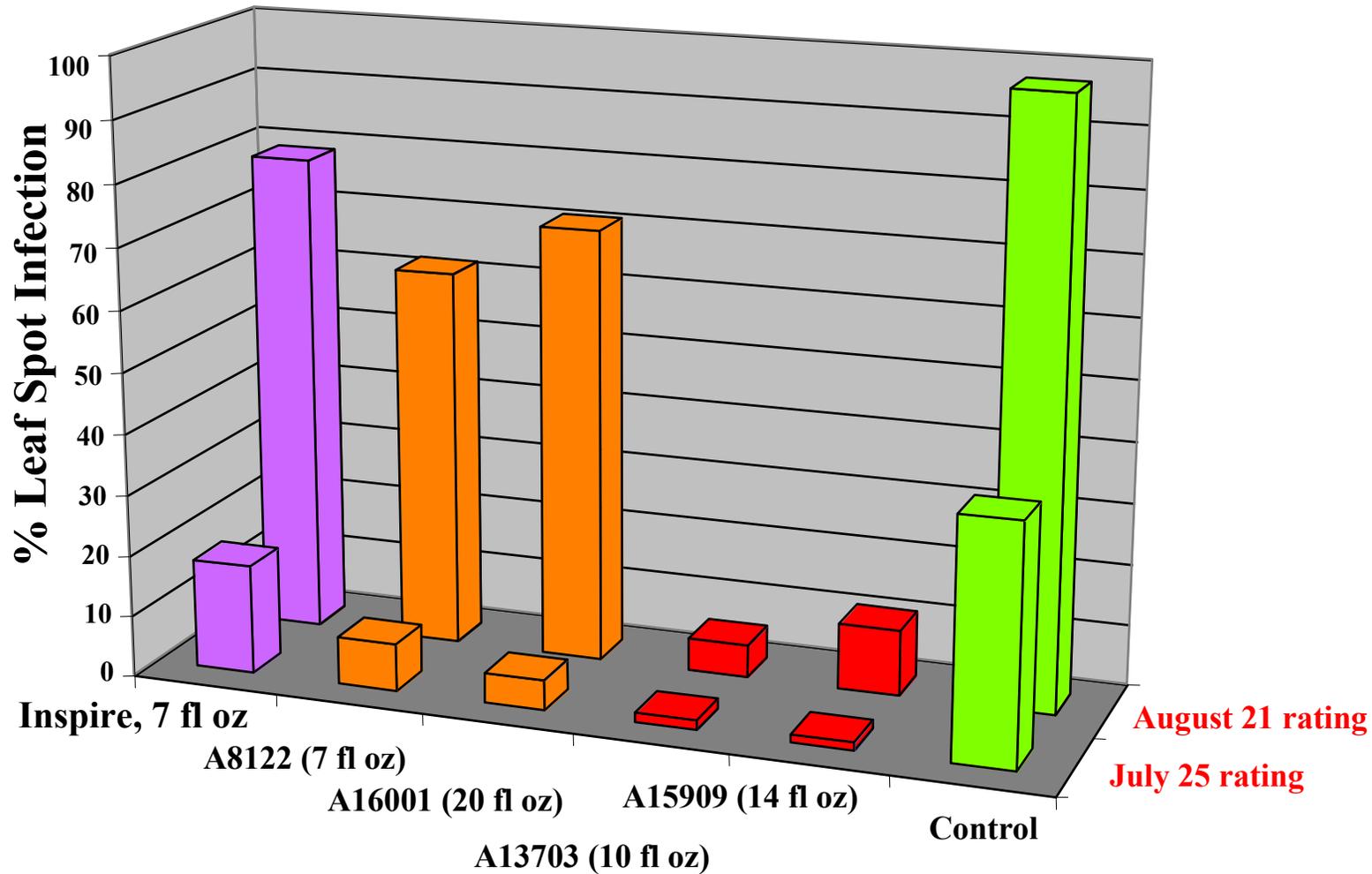
Leaf Spot Control

Full Season Experimental Treatments

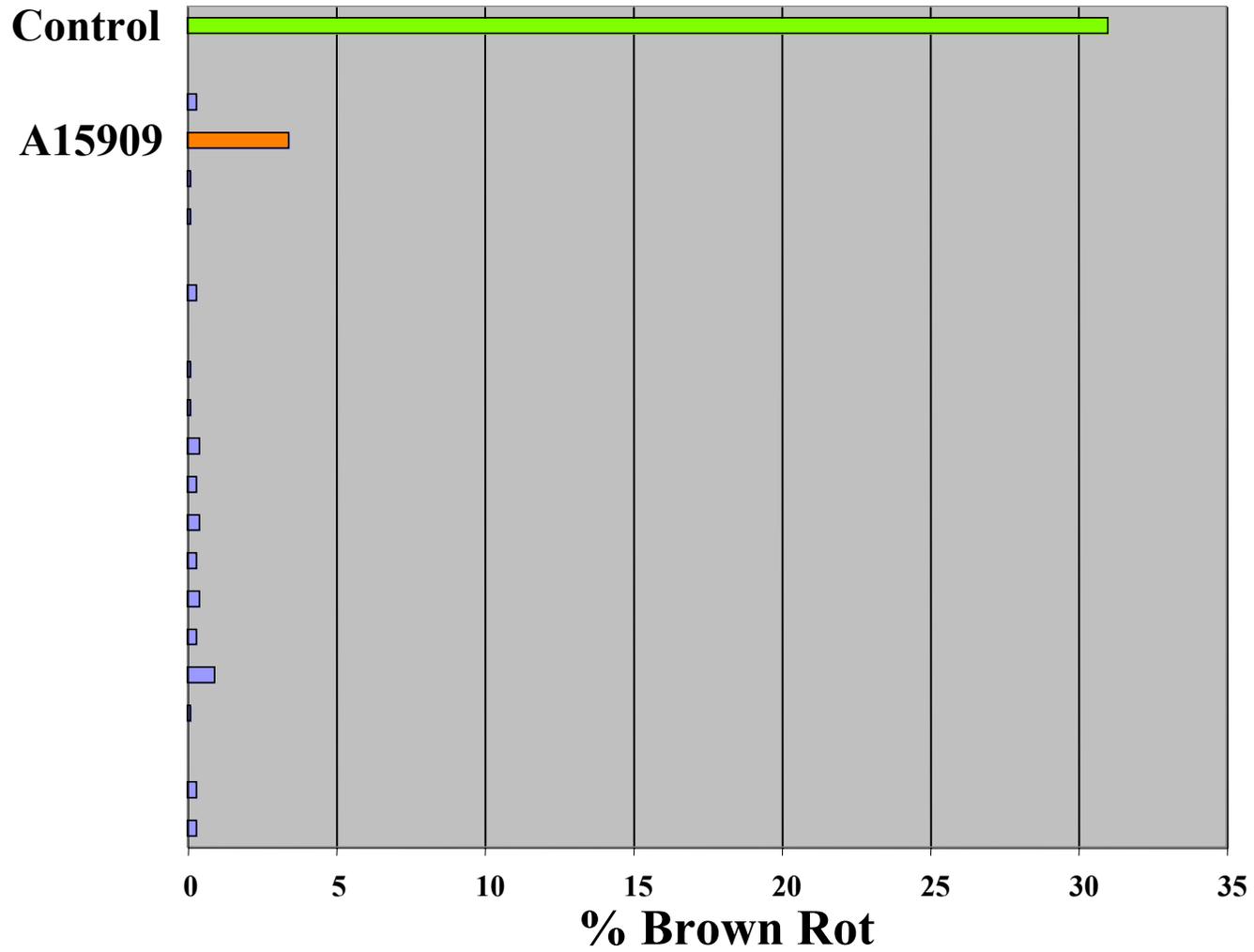


Leaf Spot Control

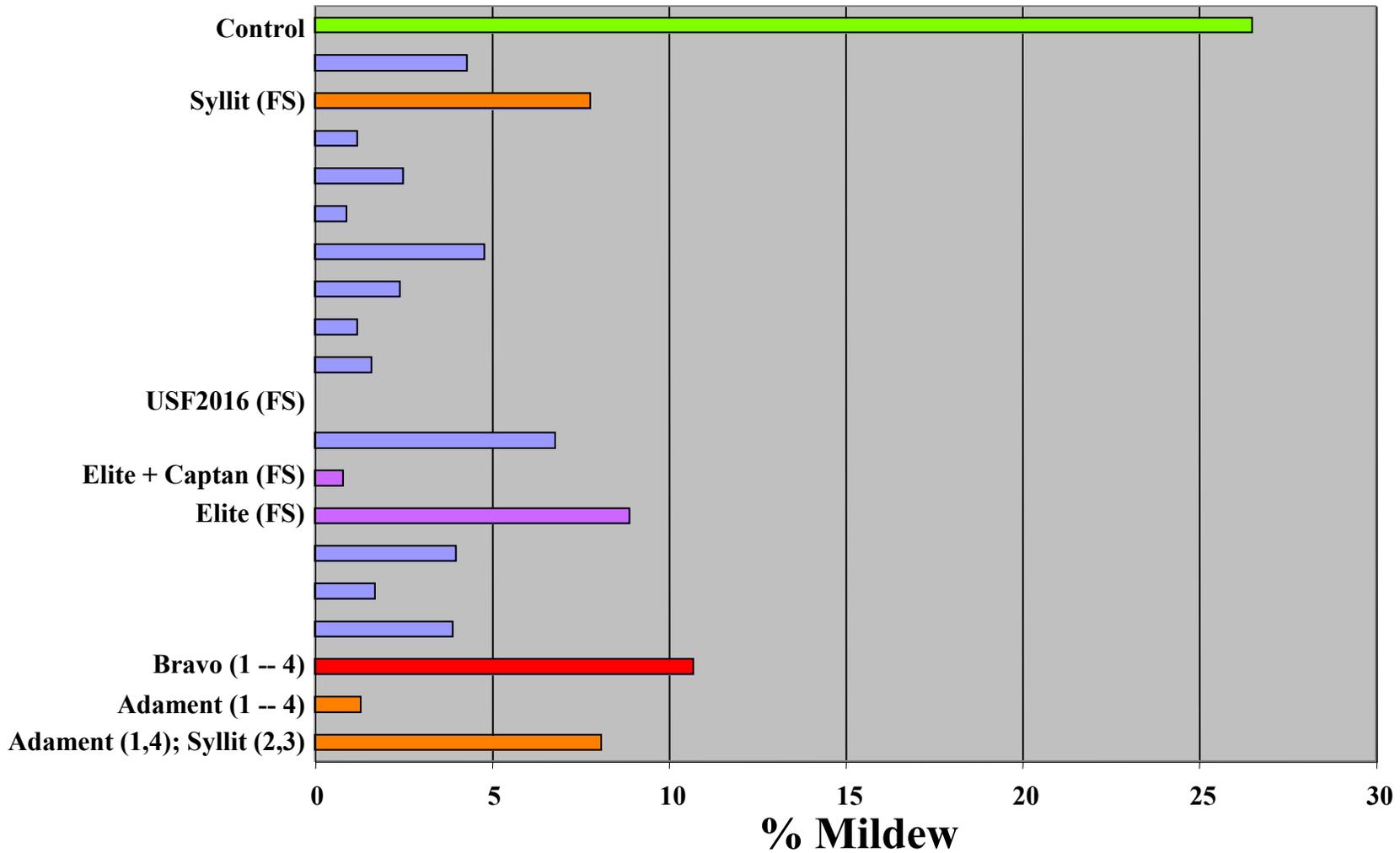
Full Season Experimental Treatments



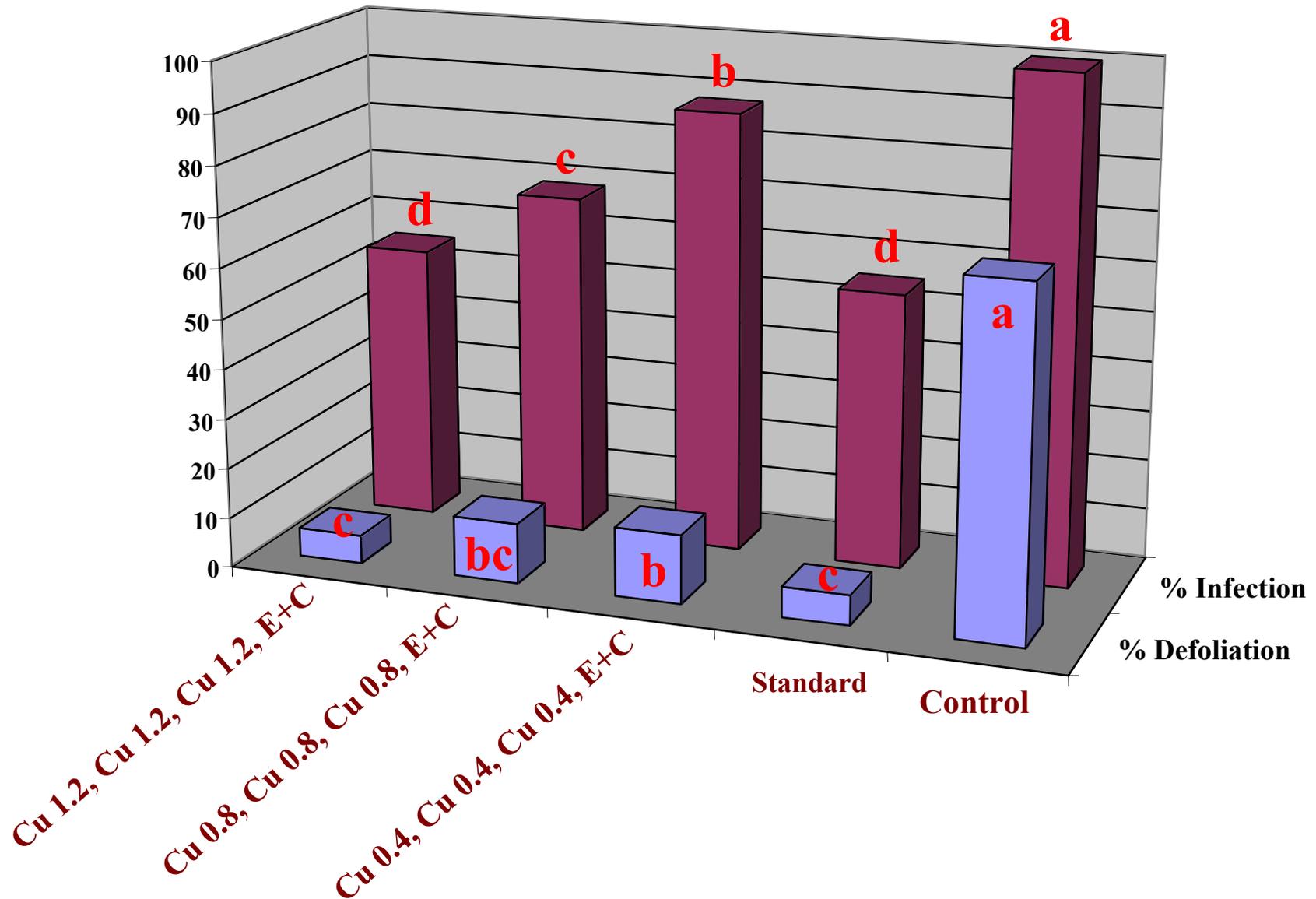
Brown Rot Control



Powdery Mildew Control



Leaf Spot Control With Reduced Rates of Copper



Chemistries for Cherry Leaf Spot Control, 2009

- **Chlorothalonil -- petal fall, shuck split**
 - **Broad-spectrum fungicide**
 - **Postharvest if necessary**
 - **Poor mildew activity**
- **Pristine -- boscalid and strobilurin**
 - **Boscalid component effective against CLS**
 - **Excellent leaf spot, mildew material**
 - **Very good brown rot material**

Chemistries for Cherry Leaf Spot Control, 2009

- **Adament -- strobilurin + SI**
- **Gem -- strobilurin**
 - **Very good to excellent leaf spot, mildew material**
 - **Good brown rot material**
- **Syllit + Captan**
 - **Excellent leaf spot material**
 - **Weak mildew material, not a brown rot fungicide**
- **Copper -- Kocide, copper sulfate, C-O-C-S**
 - **Excellent leaf spot material**
 - **?? mildew material, not a brown rot fungicide**
 - **Phytotoxicity potential**

Chemistries for Cherry Leaf Spot Control, 2009

- **Chlorothalonil**
- **Pristine**
- **Adament, Gem**
- **Syllit + Captan**
- **Copper**

Optimal Timings for Cover Spray Options

- **1st Cover**
 - **Pristine or Gem**
 - **additional powdery mildew control**
- **2nd, 3rd Cover**
 - **Coppers, Syllit + Captan**
 - **Pristine or Gem**
- **4th Cover**
 - **SI + Captan**
 - **additional brown rot control**
 - **Coppers, Syllit + Captan**
 - **Pristine or Gem**

News and Notes; Cherry Disease Control

- **Brown rot -- inoculated trial**
- **Brown rot -- survey to assess sensitivity to SI's**
- **Coppers -- conditions relevant for phytotoxicity**
- **Syllit + Captan -- excellent for cls control; less effective for mildew**
- **New materials, modes of action**
- **European brown rot on Balaton -- trial planned for 2009**

Fungicide Chemistries at Risk for Resistance Development

- **Sterol Inhibitors**
 - **Elite, Indar, Nova, Rubigan**
- **Strobilurins**
 - **Gem (Flint)**
- **Boscalid**
 - **Pristine (also contains a strobilurin)**
- **Dodine**
 - **Syllit**



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