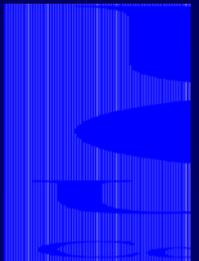


# **Garlic Rust Update**

**Steven Koike and Richard Smith**

**University of California**

**Cooperative Extension**

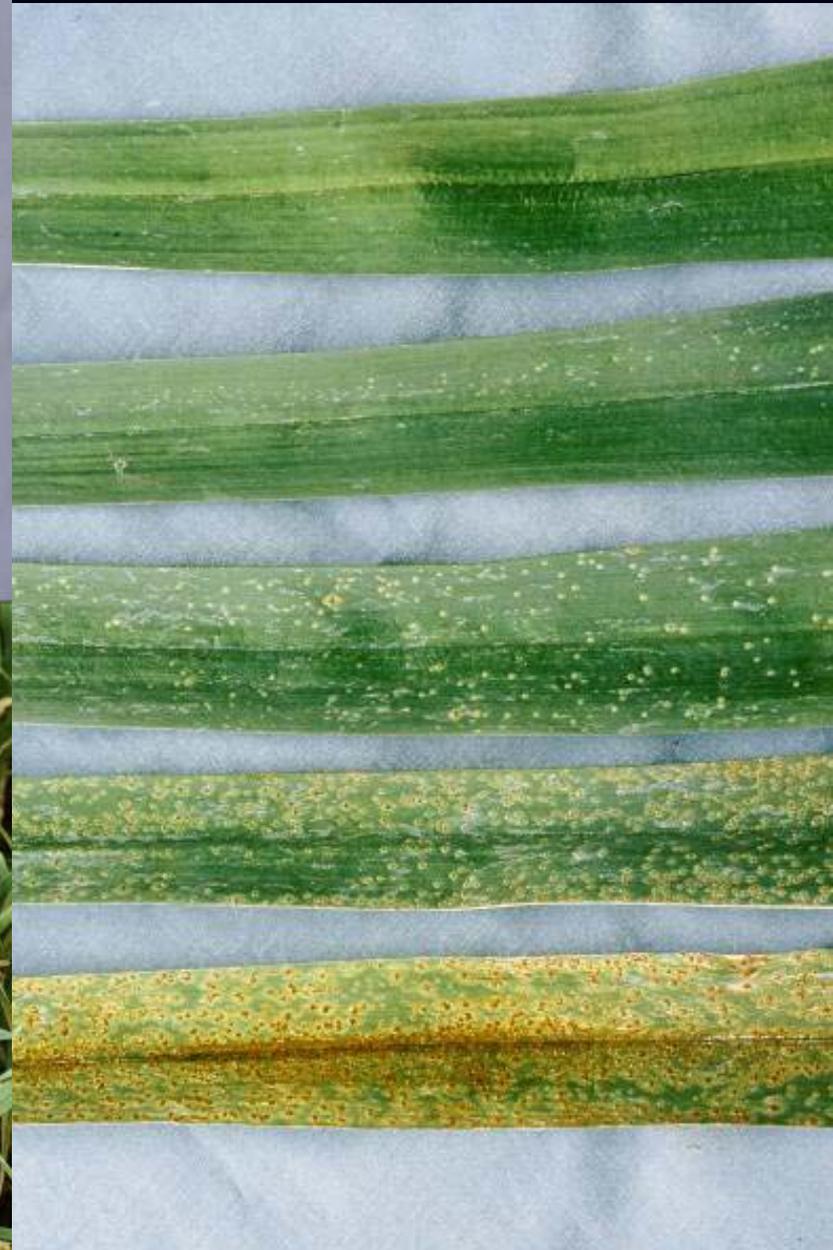


# Rust on garlic



Folicur  
8 oz/acre  
10 day interval

Untreated



# Garlic Rust in California

- **1990s: severe in CA**
- **Fungicides registered; disease managed**
- **2007 through present: rust still around**
- **Periodic outbreaks**
- **Questions about fungicide effectiveness**
- **Questions about rust mgmt. improvement**
- **Questions about source of rust, race/strain, host range**



**Rust on leek**



# Different strains of allium rust?

	garlic rust from <u>late 1990s</u>	garlic rust from <u>2007-2011</u>
Infect garlic?	yes	yes
Infect leek?	no	yes



## Rust fungicide trial: 2011 (Koike and Smith)

	<u>Severity*</u>	
Quilt XCEL 21 fl oz	0.9	
<b>Quadris 12 fl oz</b>	<b>0.9</b>	
Toledo 6 fl oz	1.1	
<b>Quilt / Toledo alt.</b>	<b>1.2</b>	
Quadris / Toledo alt.	1.6	
<b>Q8Y78 18 fl oz</b>	<b>1.6</b>	
Fontelis 1 pt	1.8	
<b>Fontelis 1.5 pt</b>	<b>1.9</b>	
Picoxy 12 fl oz	2.1	
<b>Cabrio 12 fl oz</b>	<b>3.1</b>	
Untreated	4.2	LSD (P=0.05) = 0.9

•0=0% leaf surface, 1=1 to 10%, 2=11 to 25%, 3=26 to 50%,  
•4=51 to 75%, 5=76 to 100%



—  
**untreated**



10  
**Toledo**



untreated



Quilt



—  
**untreated**



5  
**Q8Y78**



untreated



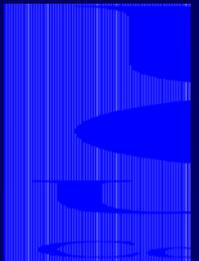
Picoxy

# Summary

- **Rust is still a production factor in CA**
- **No evidence yet of fungicide resistance (insensitivity)**
- **No tolerant cultivars yet identified**
- **Industry, researchers looking for rust management improvements**
- **Rust management guideline initiated**

**Skin blotch and bulb canker**  
***Embellisia allii***

**Steven Koike**  
**University of California**  
**Cooperative Extension**

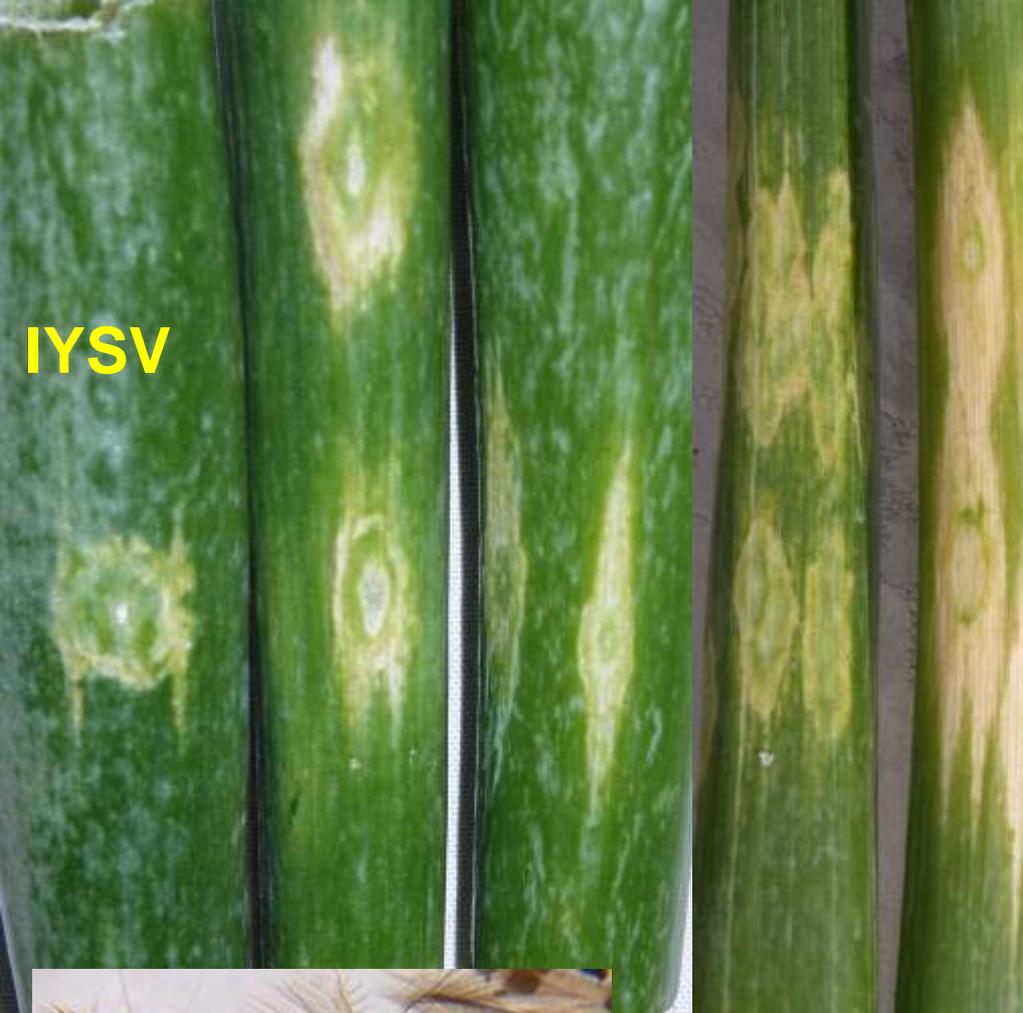






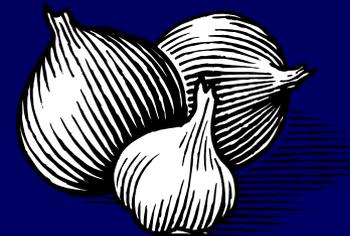


IYSV



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- Garlic rust task force.



CA Garlic & Onion  
Research Advisory  
Board

