

# Using SAR for Management of TSWV on Flue Cured Tobacco.....

AS Csinos, LL Hickman, SS LaHue and SW Mullis











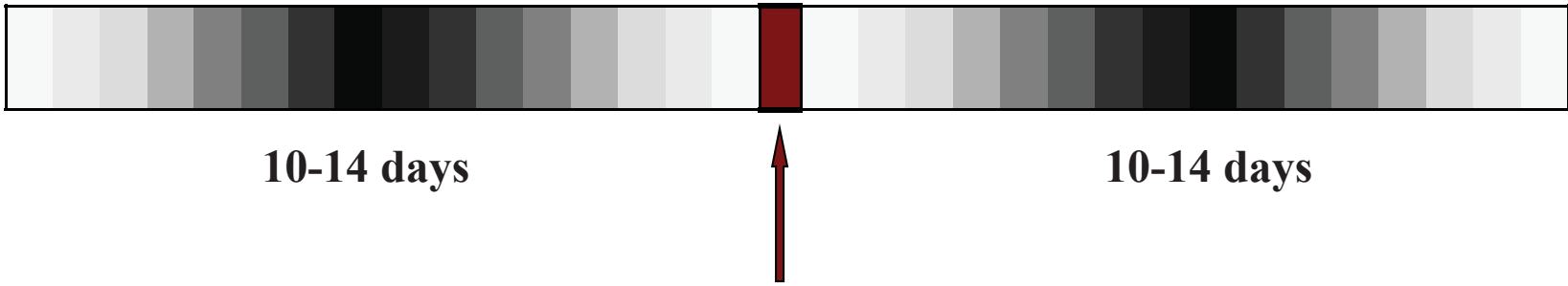




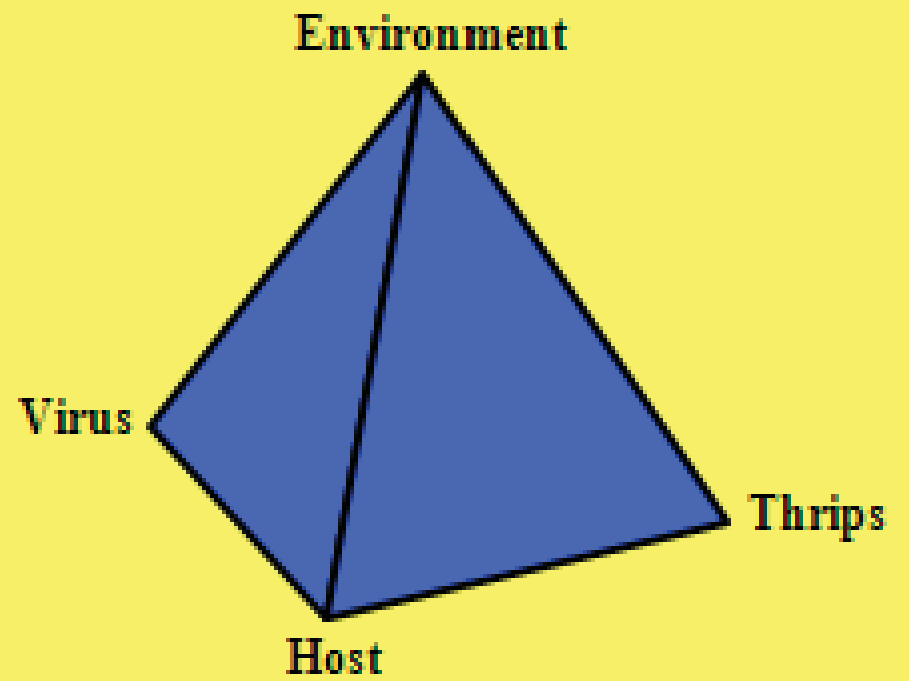
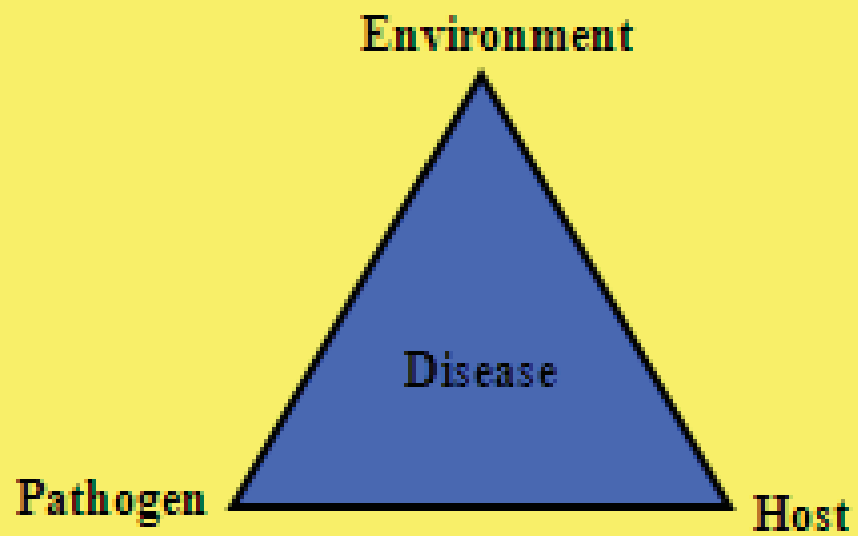
# Actigard

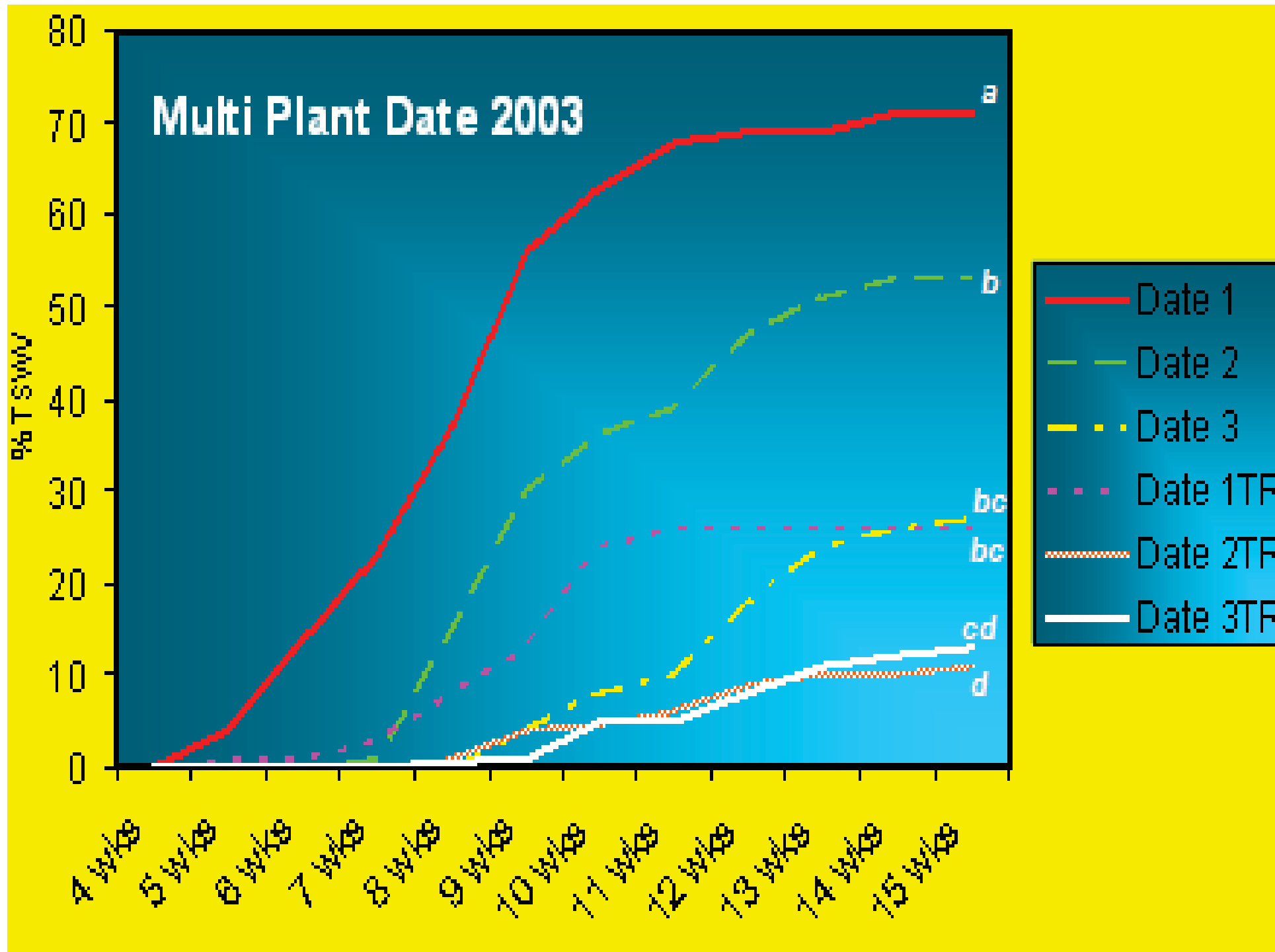
- Plant activator, not a pesticide. Uses plants defense system to prevent disease.





# Tobacco susceptible planting - harvest





# Actigard

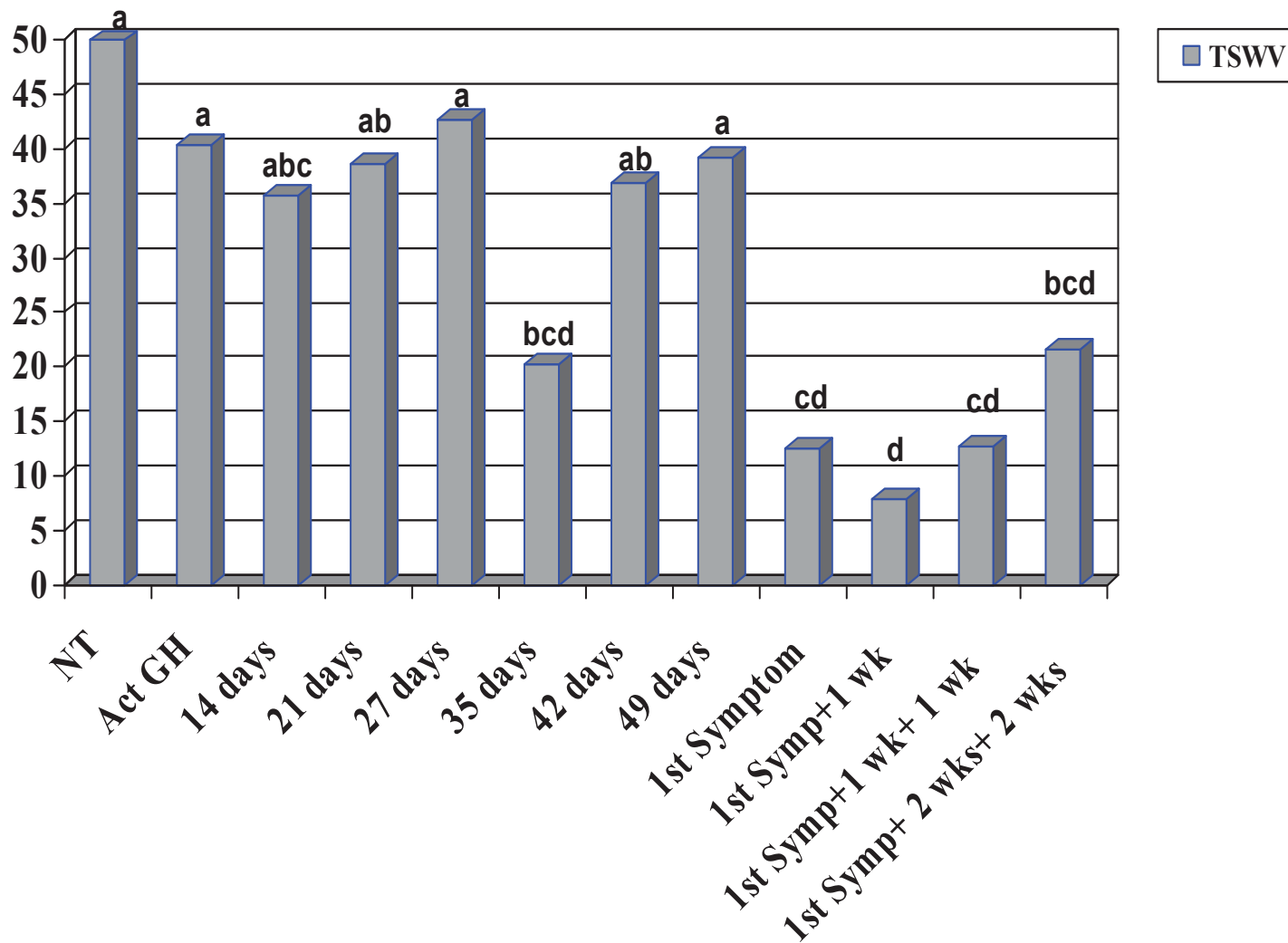
- Strategic field applications

## Modeling Field Applications of Actigard for Tomato Spotted Wilt Virus Control on Tobacco

Treatment	Greenhouse	Field Application
1	None	None
2	Actigard and Admire Pro	None
3	Actigard and Admire Pro	14 days
4	Actigard and Admire Pro	21 days
5	Actigard and Admire Pro	27 days
6	Actigard and Admire Pro	35 days
7	Actigard and Admire Pro	42 days
8	Actigard and Admire Pro	49 days
9	Actigard and Admire Pro	1 <sup>st</sup> Symptom TSWV
10	Actigard and Admire Pro	1 <sup>st</sup> Symptom TSWV + 1 week
11	Actigard and Admire Pro	1 <sup>st</sup> Symptom TSWV + 1 week +
1 week		
12	Admire Pro	1 <sup>st</sup> Symptom + 2 Weeks + 2
weeks		

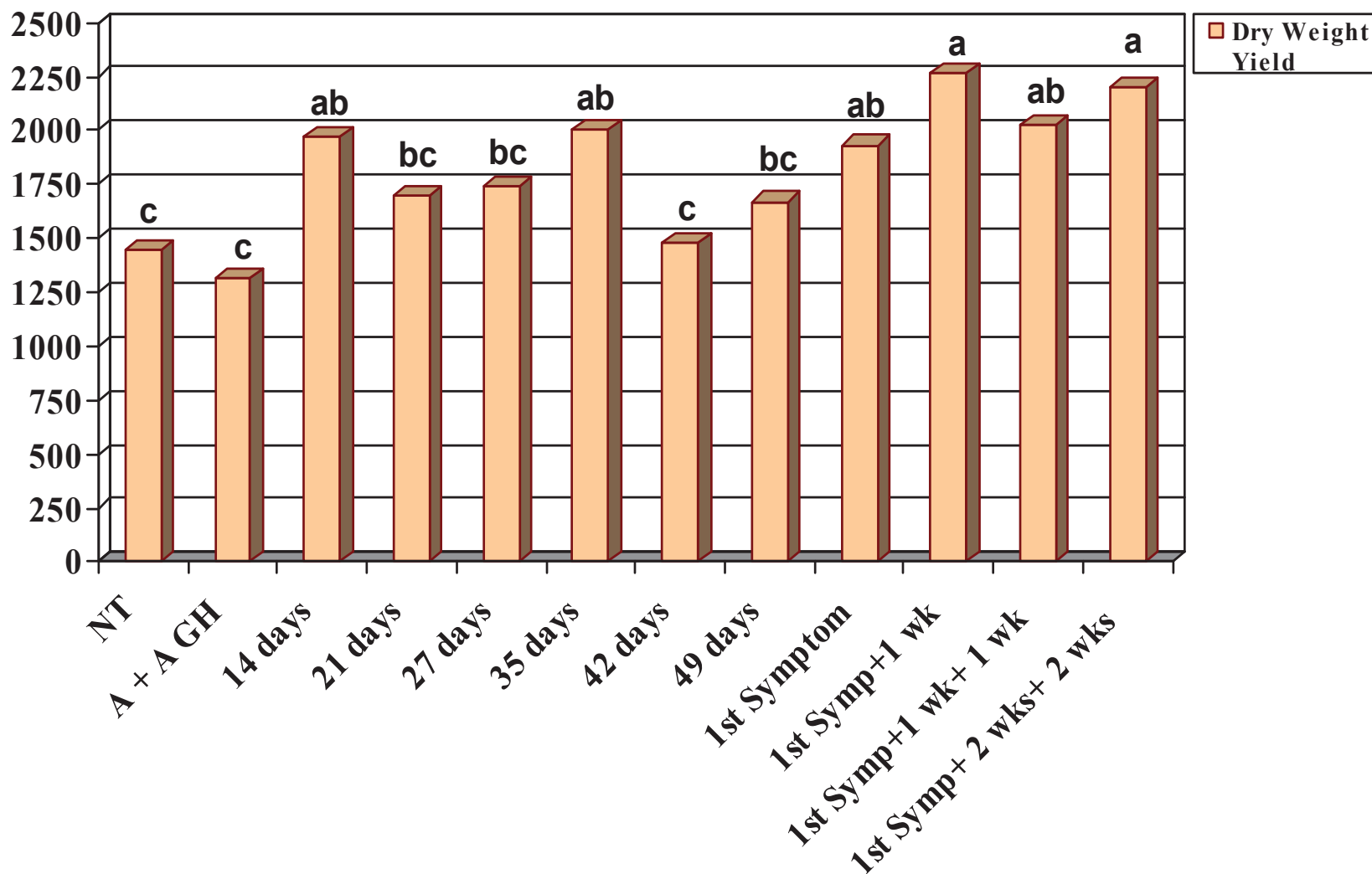
# Modeling Field Applications of Actigard for Tomato Spotted Wilt Virus Control on Tobacco

Percent TSWV Infection of Tobacco Plants



# Modeling Field Applications of Actigard for Tomato Spotted Wilt Virus Control on Tobacco

Dry Weight Yield of Tobacco Harvests





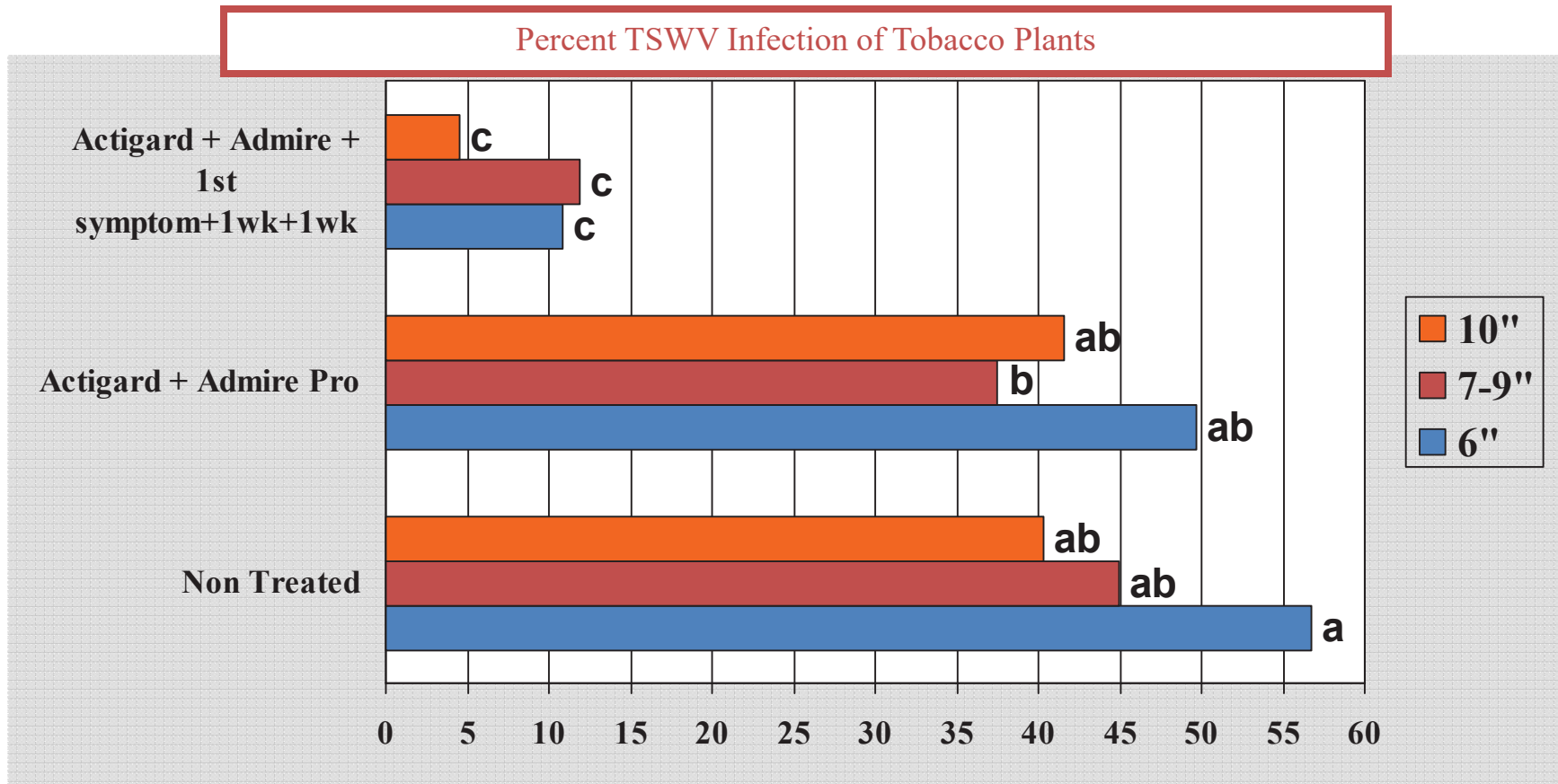
# Relationship of Plant Size to Tomato Spotted Wilt Virus Susceptibility

## Trial Information

Location: Bowen Farm                      Tifton, GA                      University of Georgia- A.S. Csinos  
 Tobacco Variety:                      NC 71  
 Date Planted: March 26, 2009  
 1st Symptom of TSWV plants flagged and recorded on April 30, 2009

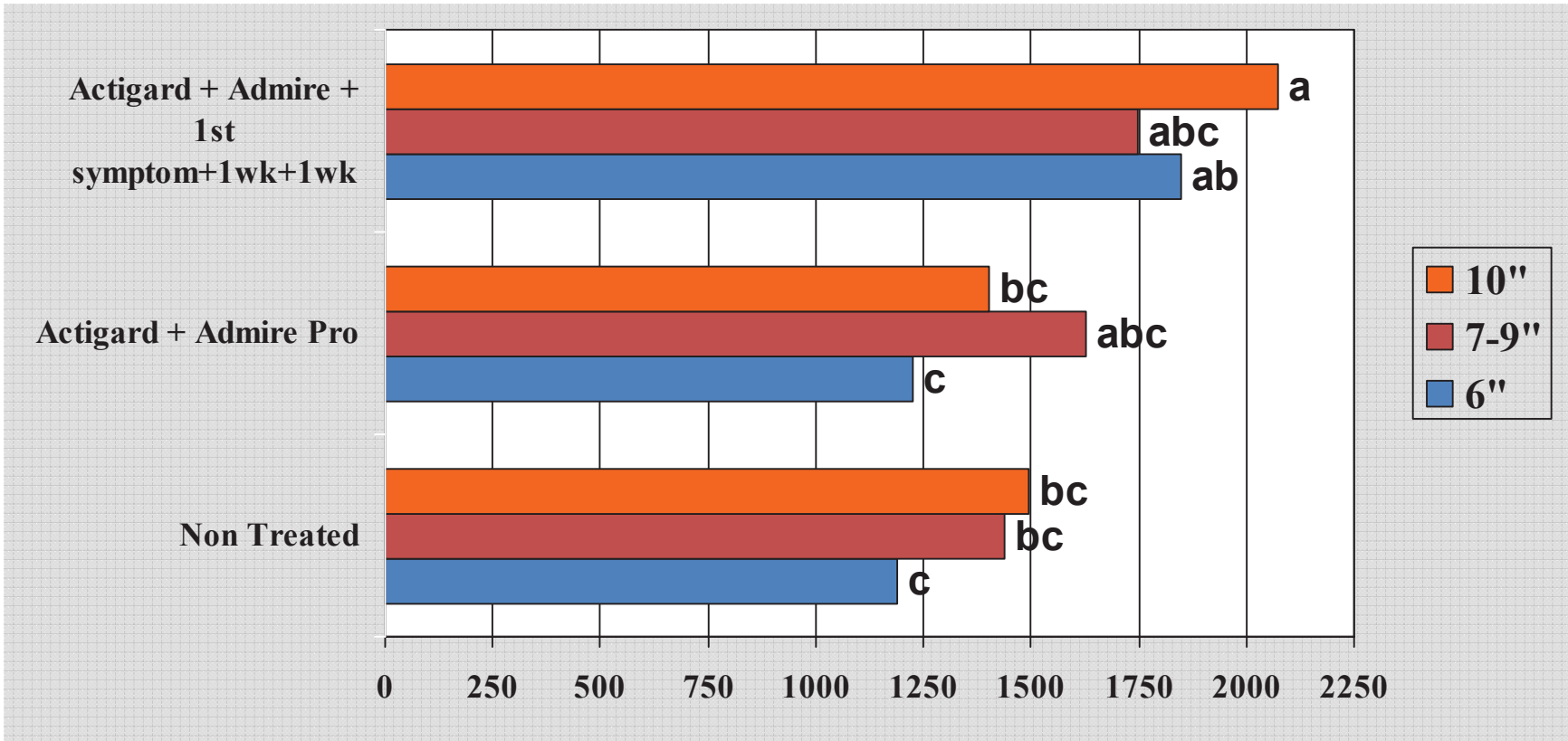
<u>Treatment</u>	<u>Approximate height</u>	<u>Greenhouse</u>	<u>Field</u>
1. Small Plants	6"	None	None
2. Medium Plants	7"-9"	None	None
3. Large Plants	10"	None	None
4. Small Plants	6"	Actigard and Admire Pro	None
5. Medium Plants	7"-9"	Actigard and Admire Pro	None
6. Large Plants	10"	Actigard and Admire pro	None
7. Small Plants	6"	Actigard and Admire Pro	1 <sup>st</sup> Symptom TSWV +1wk +1wk
8. Medium Plants	7"-9"	Actigard and Admire Pro	1 <sup>st</sup> Symptom TSWV +1wk +1wk
9. Large Plants	10"	Actigard and Admire Pro	1 <sup>st</sup> Symptom TSWV +1wk +1wk

# Relationship of Plant Size to Tomato Spotted Wilt Virus Susceptibility



# Relationship of Plant Size to Tomato Spotted Wilt Virus Susceptibility

## Dry Weight Yield of Tobacco Harvests



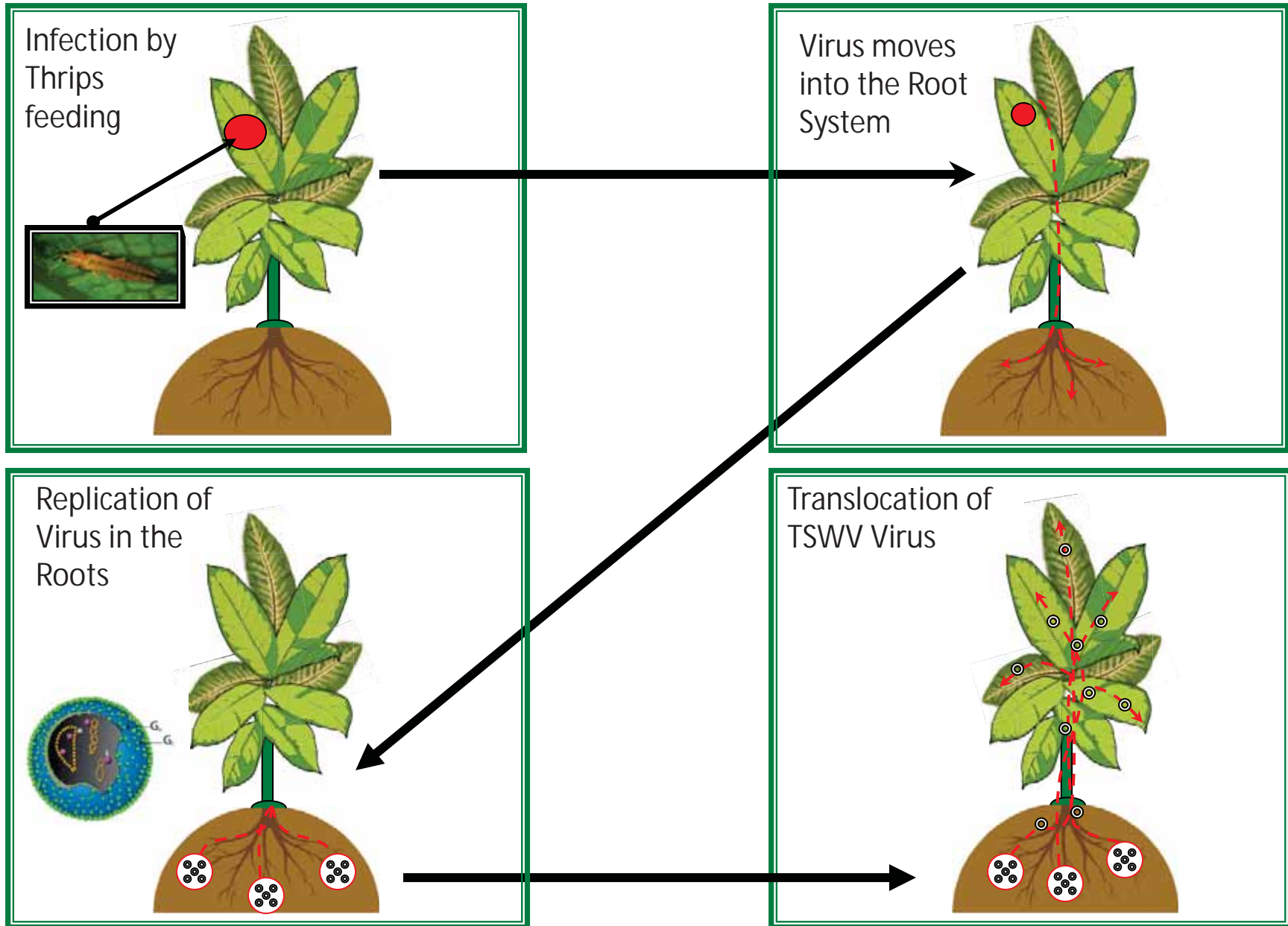




Non symptomatic plants are  
ELISA +

Artificial inoculation  
requires temperature  
manipulation for  
symptoms

# Tomato Spotted Wilt Infection-Disease Mechanism





# Summary

2009.. Symptoms appeared late.....April 30

..Field applications more important than float house

Application timing critical

# SUMMARY

ACTIGARD may be inhibiting  
virus replication /or  
movement from roots to  
foliage







# PLANT PATHOLOGY



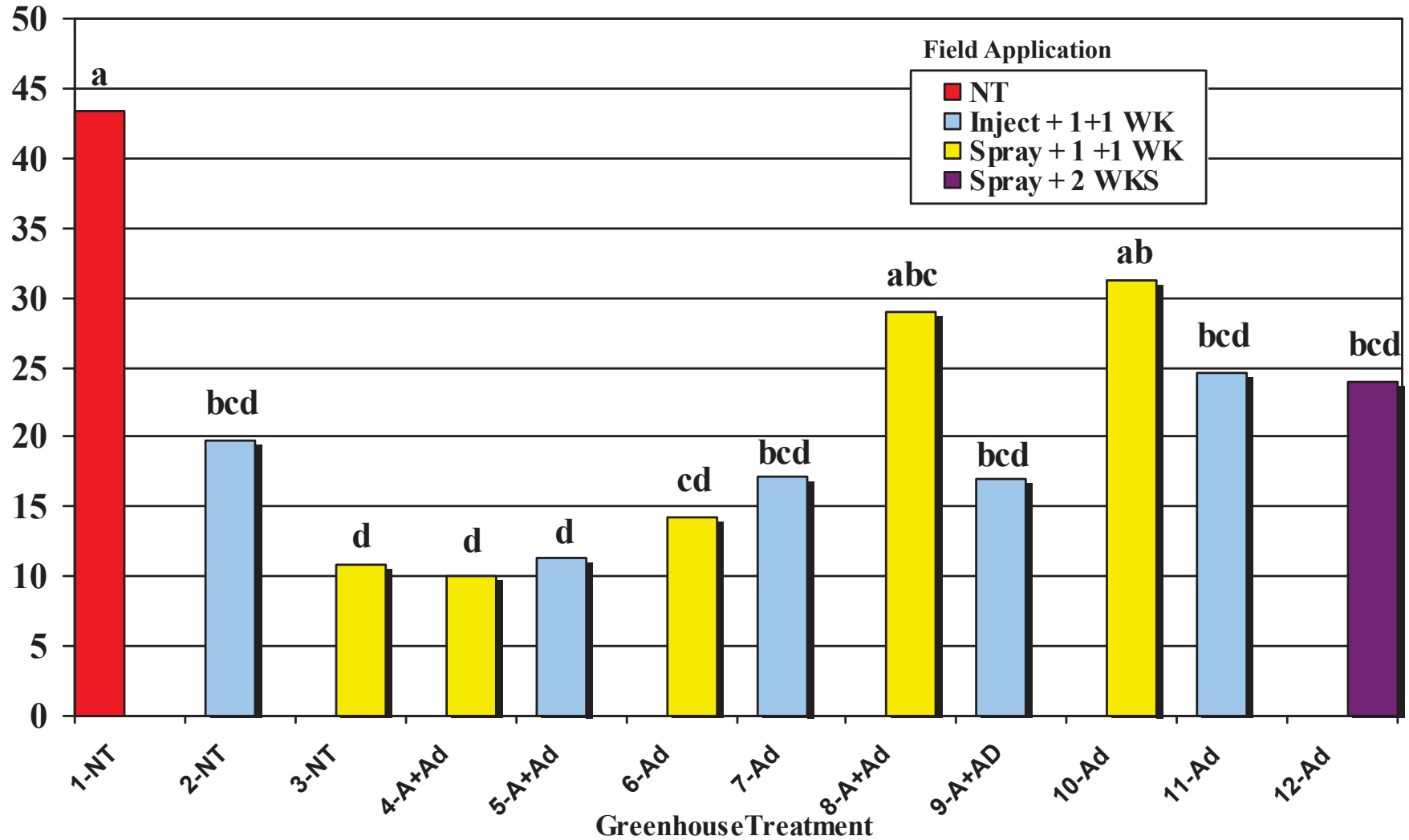
## Evaluation of Application Techniques and Reduced Phytotoxic Effects of Actigard and Admire for control of Tomato Spotted Wilt Virus

### Treatments

- |     |                         |  |
|-----|-------------------------|--|
| 1.  | Non-Treated             | None   |
| 2.  | Non-Treated             | Actigard 1 <sup>st</sup> symptom- Inject + 1 Week + 1 Week   |
| 3.  | Non Treated             | Actigard 1 <sup>st</sup> symptom- Spray + 1 Week + 1 Week    |
| 4.  | Actigard and Admire Pro | Actigard 1 <sup>st</sup> symptom- Spray + 1 Week + 1 Week    |
| 5.  | Actigard and Admire Pro | Actigard 1 <sup>st</sup> symptom- Inject + 1 Week + 1 Week   |
| 6.  | Admire Pro              | Actigard 1 <sup>st</sup> symptom- Spray + 1 Week + 1 Week    |
| 7.  | Admire Pro              | Actigard 1 <sup>st</sup> symptom- Inject + 1 Week + 1 Week   |
| 8.  | Admire Pro and Actigard | Admire Pro 1 <sup>st</sup> symptom- Spray + 1 Week + 1 Week  |
| 9.  | Admire Pro and Actigard | Admire Pro 1 <sup>st</sup> symptom- Inject + 1 Week + 1 Week |
| 10. | Admire Pro              | Admire Pro 1 <sup>st</sup> symptom- Spray + 1 Week + 1 Week  |
| 11. | Admire Pro              | Admire Pro 1 <sup>st</sup> symptom- Inject + 1 Week + 1 Week |
| 12. | Admire Pro              | Actigard 1 <sup>st</sup> symptom- Spray + 2 Weeks            |

## Evaluation of Application Techniques and Reduced Phytotoxic Effects of Actigard and Admire for control of Tomato Spotted Wilt Virus

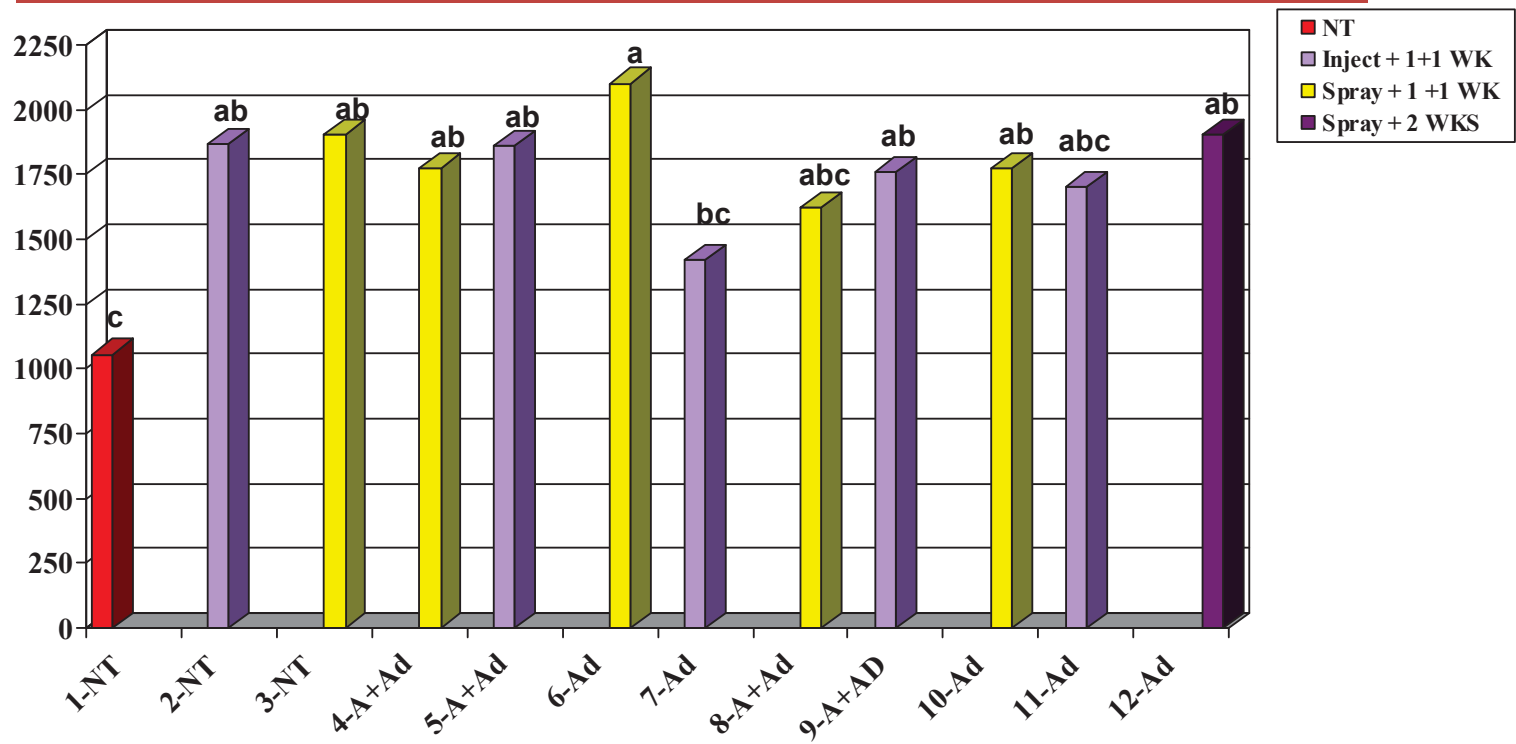
Percent TSWV infection of Tobacco Plants





## Evaluation of Application Techniques and Reduced Phytotoxic Effects of Actigard and Admire for control of Tomato Spotted Wilt Virus

Dry Weight Yield of Tobacco Harvests



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