

SOYBEAN APHID BIOLOGY

WHAT YOU NEED TO KNOW

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The Soybean Aphid In Wisconsin – A Collaborative Effort

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**Plant Pathology: Craig Grau,
Nancy Kurtzweil**

Agronomy: Chris Boerboom, John Gaska

Other: Tom Klubertanz (UW Rock Co.)

The Soybean Aphid – *Aphis glycines*

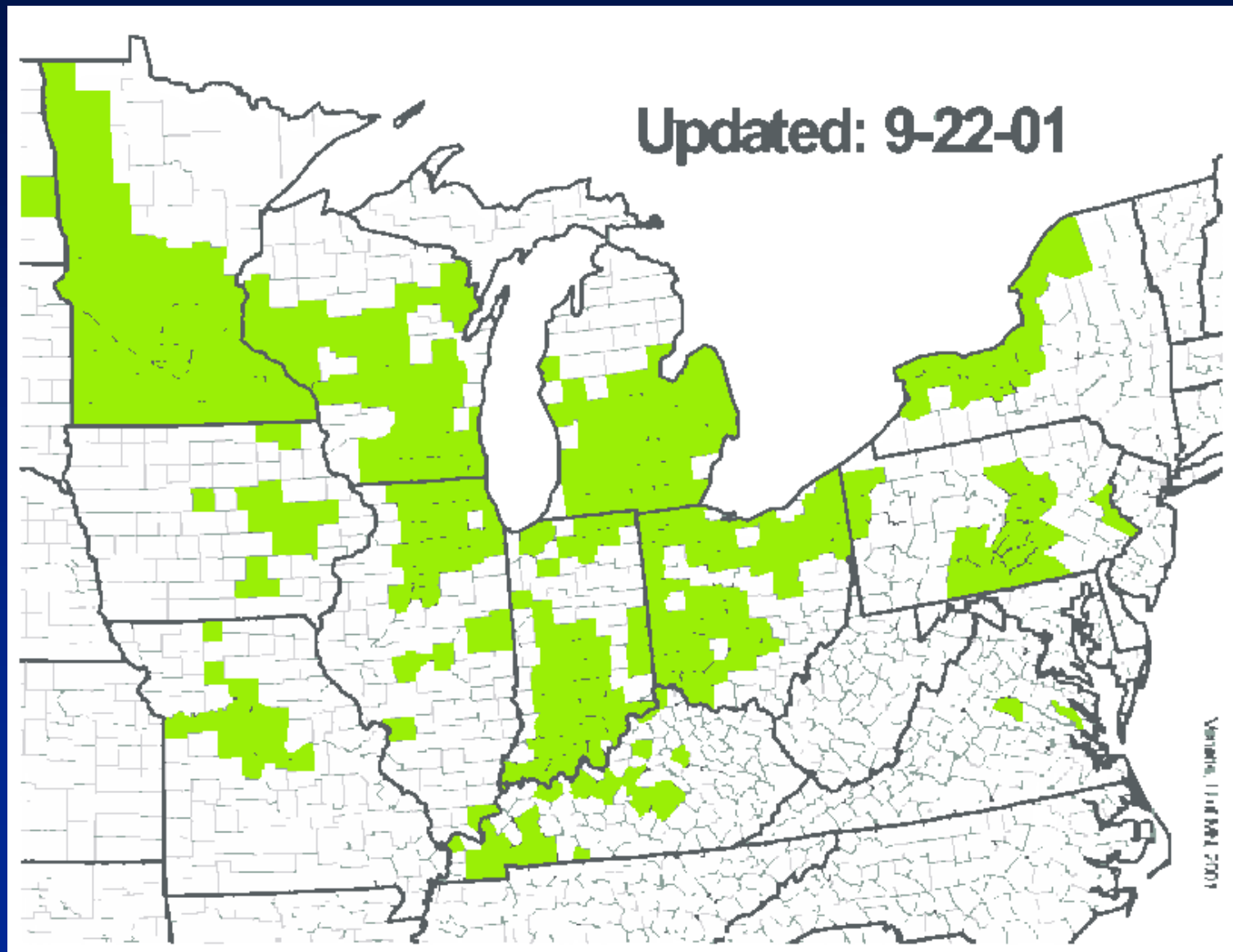
Where did it
come from?



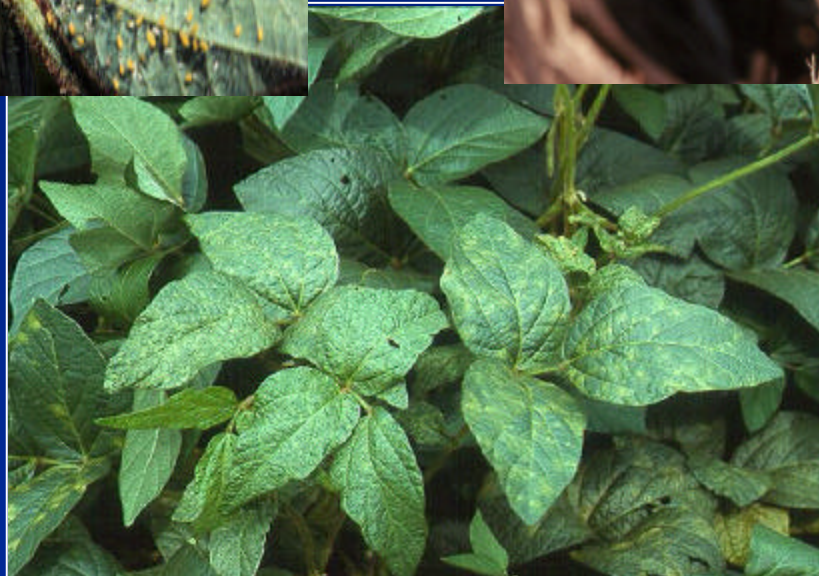
When/how
did it get
here?



SOYBEAN APHID DISTRIBUTION



Soybean Aphid – Impacts on Soybean

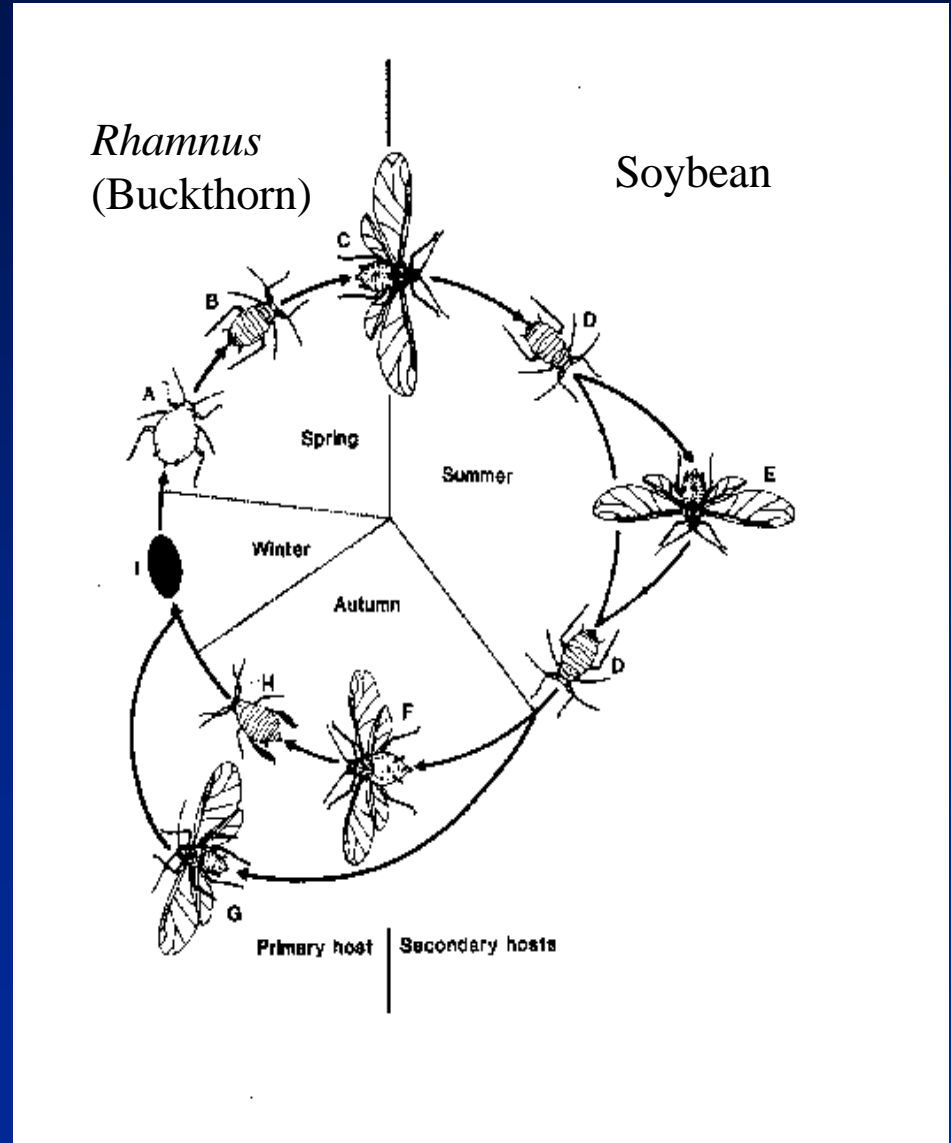


2001 Yield Loss Estimates

- An informal survey was taken to get a rough estimate of losses to soybean aphid in WI in 2001
- Based on data (unreplicated) from 22 fields, the average yield loss was **12.6%**
 - ave. yield (sprayed) was 44.4 bu, ave. loss from SBA was 5.6 bu
 - this does not take into account planting date, SBA numbers, or spray date
- Also, a windshield survey on August 14 indicated that about half the soybean acres in southern WI were sprayed for SBA

Soybean Aphid Seasonal History

- A: fundatrix
- B: fundatrigenia
- C: spring migrant
- D: apterous exule
- E: alatae exule
- F: gynopara
- G: male
- H: ovipara
- I: egg



Buckthorn, *Rhamnus cathartica*



Determining the Overwintering Hosts & Insect Stages



Soybean Aphid Seasonal Pattern in China (Wang et al. 1962)

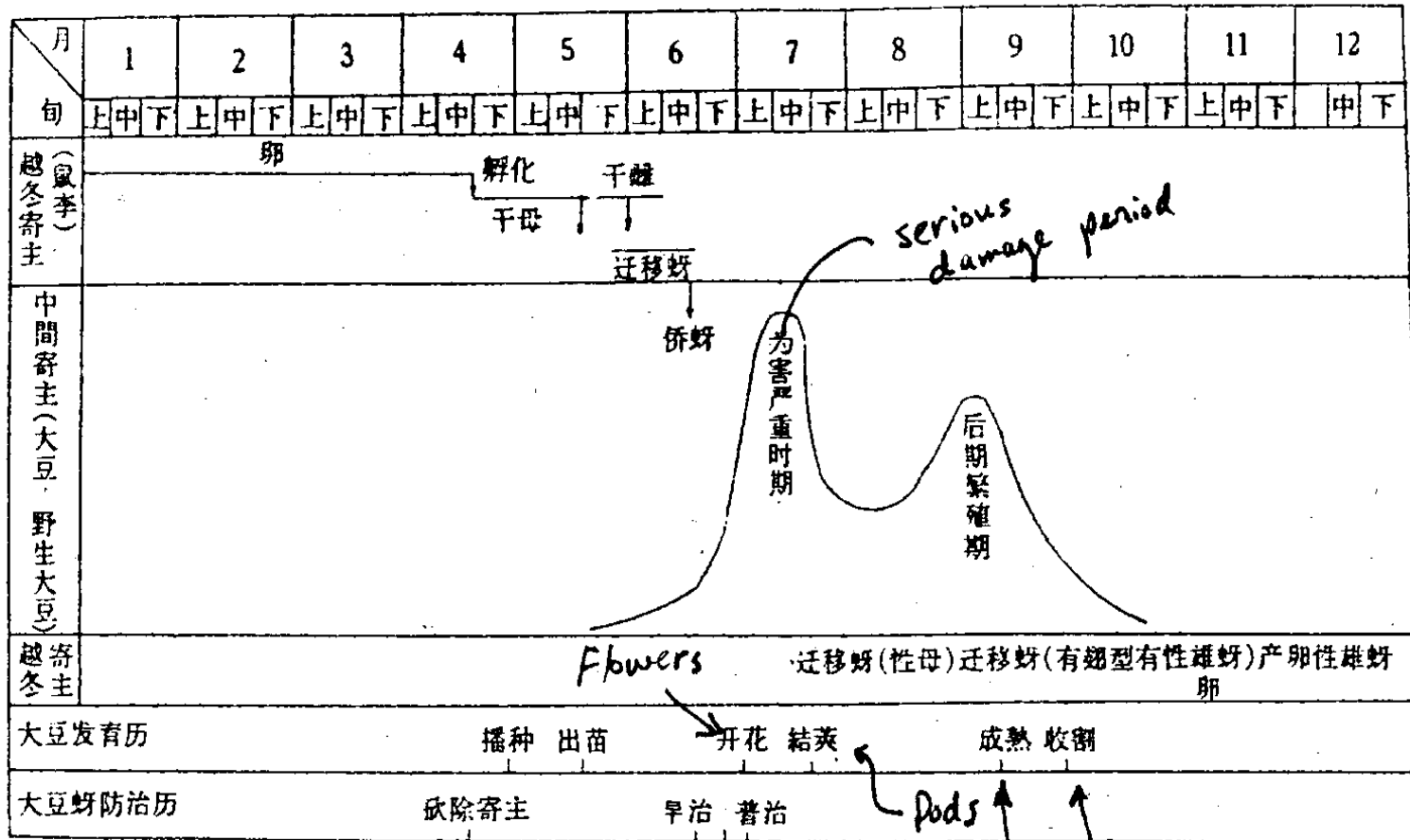
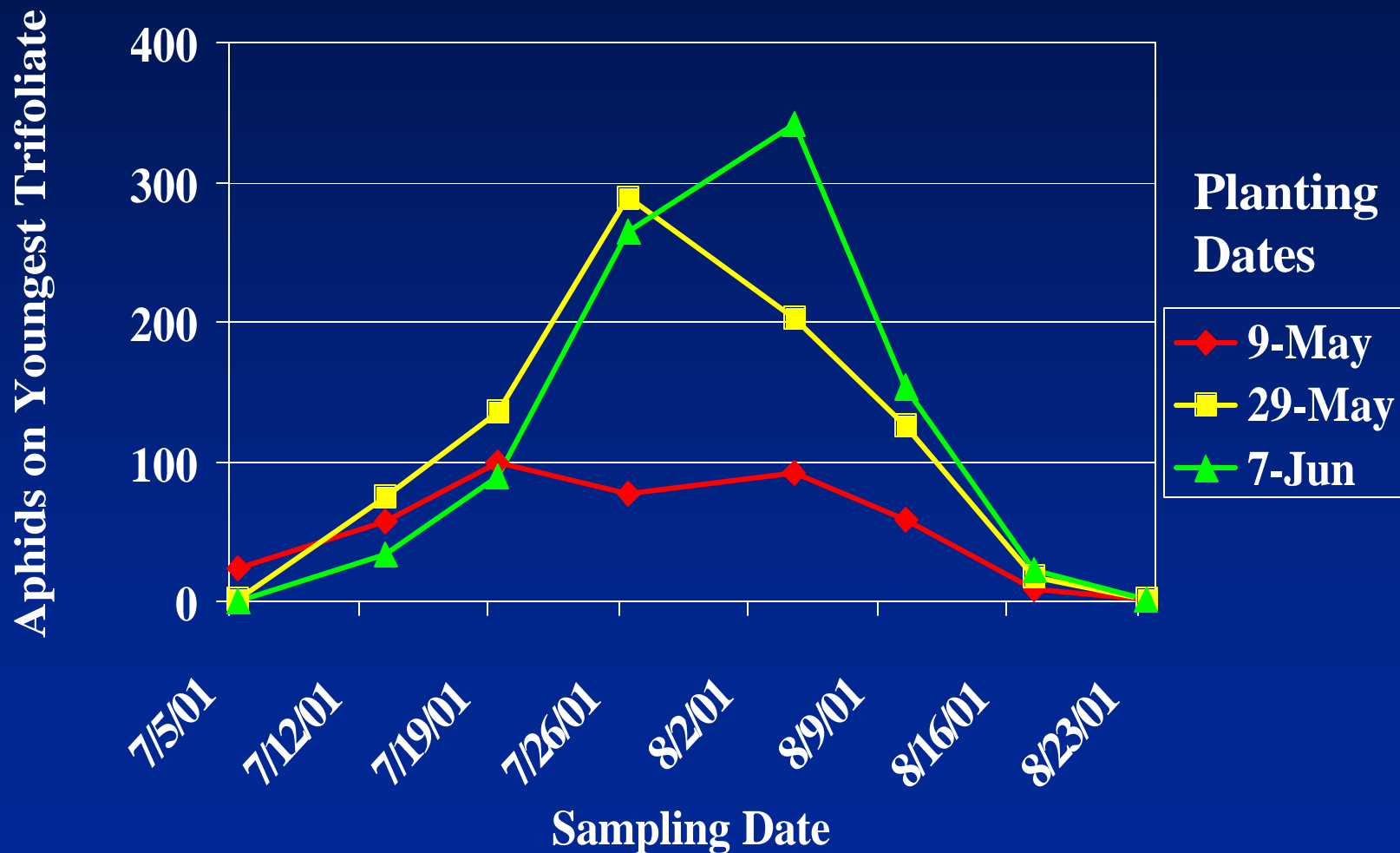


图4 大豆蚜发生及防治历

Pods
Mature
Harvest

Soybean Aphid Population Dynamics

Arlington, WI 2001



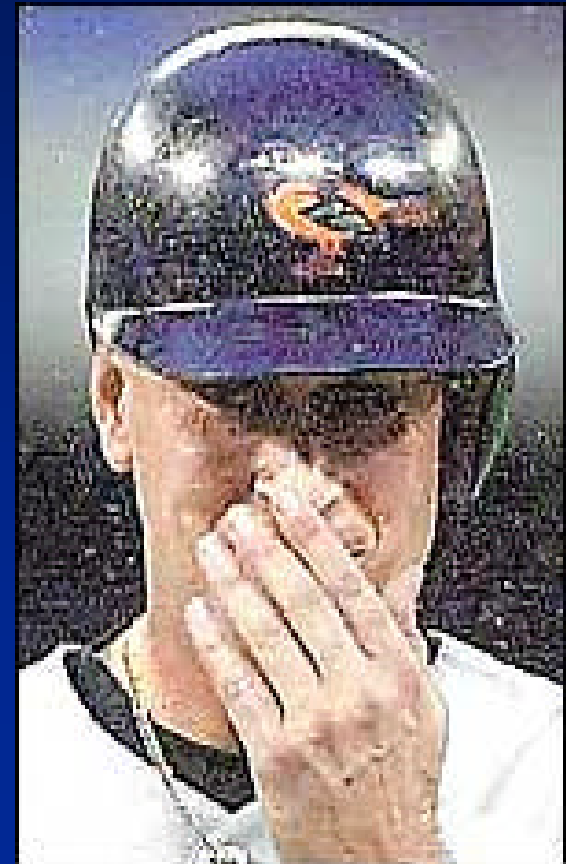
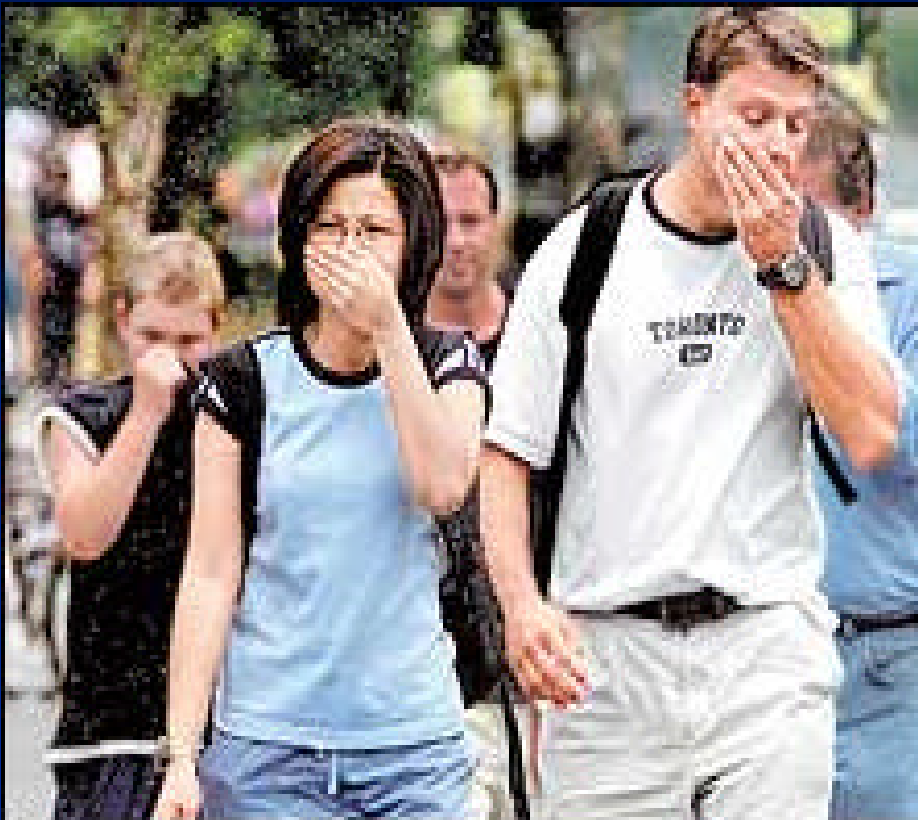
SOYBEAN APHID – POPULATION GROWTH POTENTIAL

- A soybean aphid can begin reproducing when she is 5 days old
- Under optimal conditions a soybean aphid population can increase by a factor of 1.6 per day, which means a population can potentially grow from 10 to 1,000 aphids in a little under 10 days!

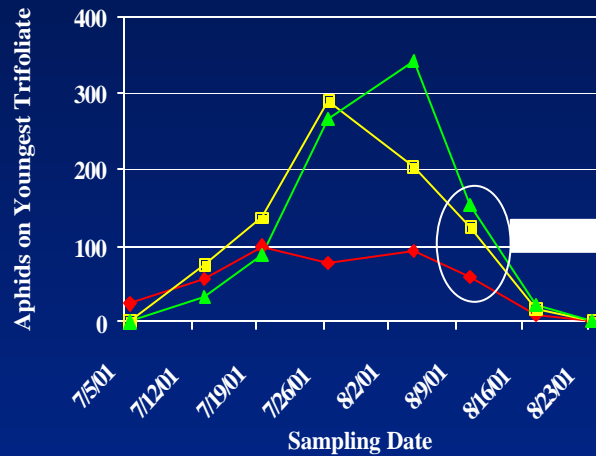
(Bob Ellingson data, UW Biotron, spring 2001)

Soybean Aphids Descend on Toronto

August 2-3, 2001



Soybean Aphids Move Down from the Growing Point - August 10, 2001



Aphids per Leaflet

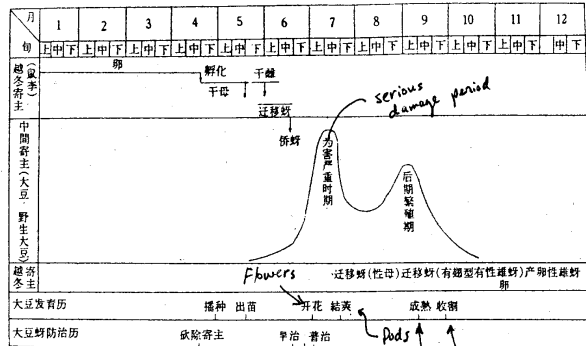
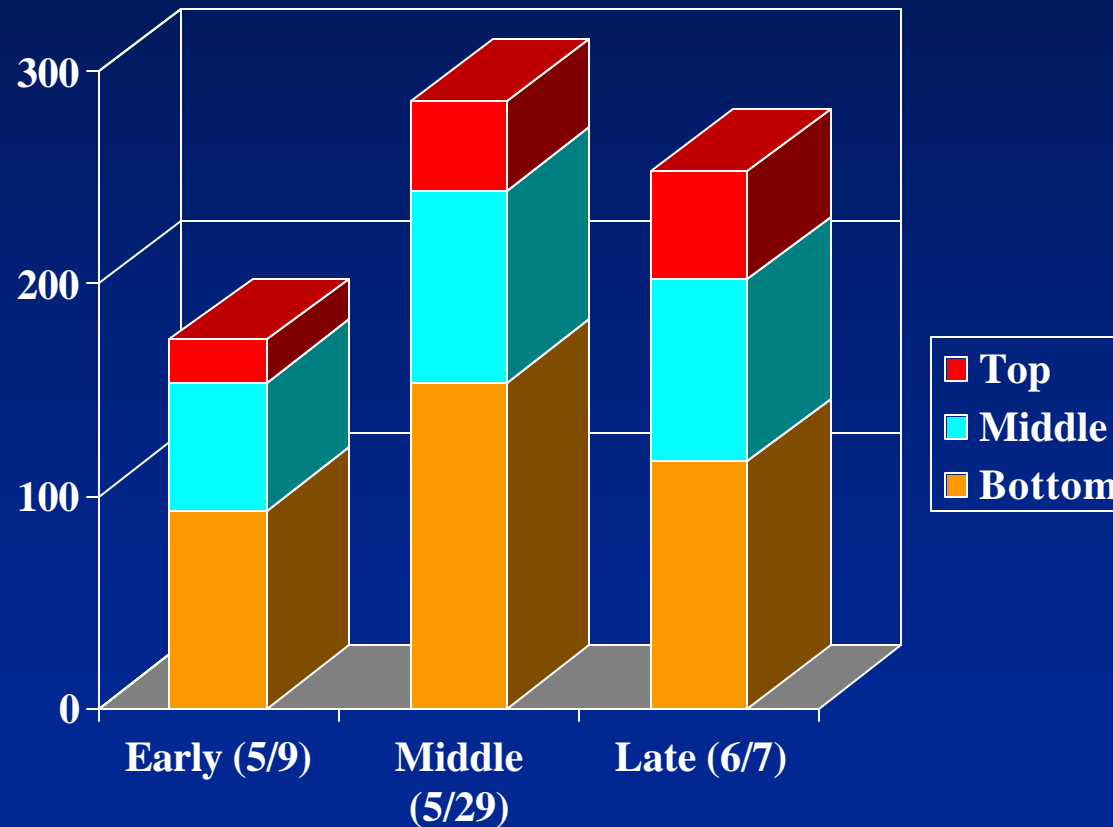


图4 大豆蚜发生及防治历

Soybean Aphid – Biological Controls

Predators – Multicolored Asian Lady Beetle



Asian Lady Beetle – Help or Just Another Problem?

