

# UTILIZING VIRUS TO CONTROL WORM PESTS IN SOYBEANS

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# BIOPESTICIDES: NPV

- NPV virus that only kills host while replicating more virus
- Cost
  - \$3-6/acre (Heligen)
  - ?? (Surtivo Soy)
- Must be stored at or below 77°F out of sunlight
- Only kills target insect
  - Heligen (Bollworm/Budworm)
  - Surtivo Soy (Bollworm/Budworm+Loopers)

# IDENTIFICATION IS CRUCIAL





# BOLLWORM SCOUTING & THRESHOLDS

- Reproductive Thresholds for Bollworms
  - 9 per 25 sweeps
- NPV threshold
  - 3 to 5 small larvae per 25 sweeps
- 4 to 6 days post application
  - Reduced damage and feeding
  - Larval migration to tops of canopy
  - Decreased defense response
  - Liquefied larvae
  - “Sweating larvae”







# LOOPER SCOUTING & THRESHOLDS

- Threshold for Soybean Loopers
  - 37 worms 0.5 inch or longer in 25 sweeps
- NPV threshold
  - 10 loopers per 25 sweeps
- 4 to 6 days post application
  - Reduced larval damage/feeding
  - Migration to canopy top
  - Larvae on ground
  - Liquefied larvae
  - Sluggish behavior











# KEYS TO NPV SUCCESS

- NPV is a live virus, not a traditional insecticide
- Keep it cool
- NPV only kills target insects (Heliothine, Loopers)
- Target small larvae
- NPV takes 4-6 days to kill host larvae
- Other insects spread virus





# Mitchel Field

## 3 Days After Application

36.7 larvae/25 sweeps

■ Virus Present





# Mitchel Field

## 7 Days After Application

24.3 larvae/25 sweeps


 Virus Present





# Mitchel Field

## 14 Days After Application

2.3 larva/25  
sweeps  Virus Present





# Mitchel Field

## 21 Days After Application

2.3 larva/25 sweeps

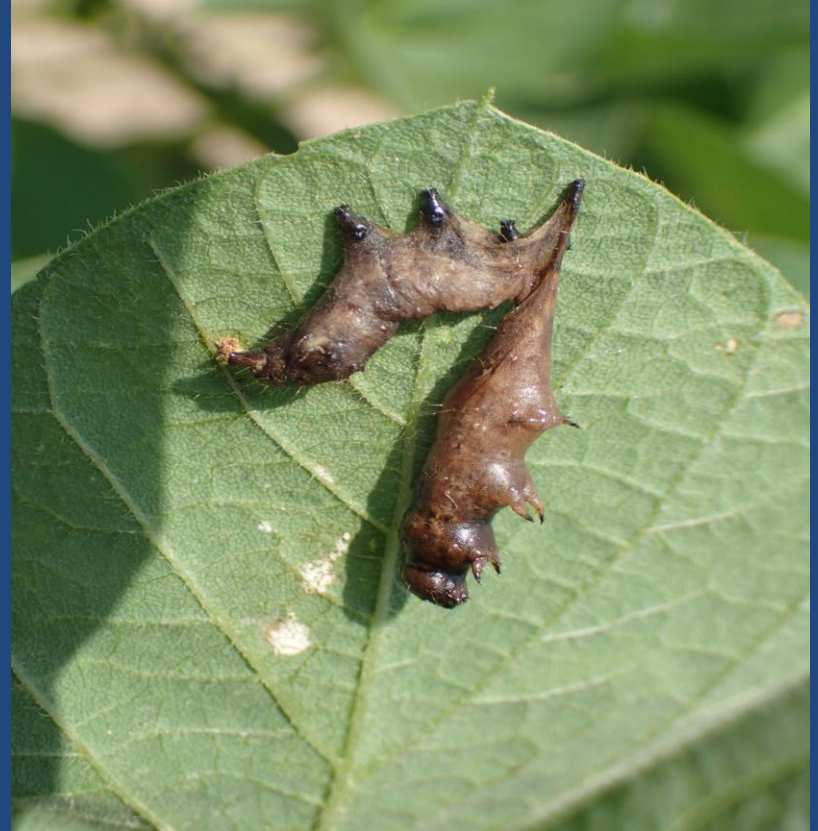
■ Virus Present



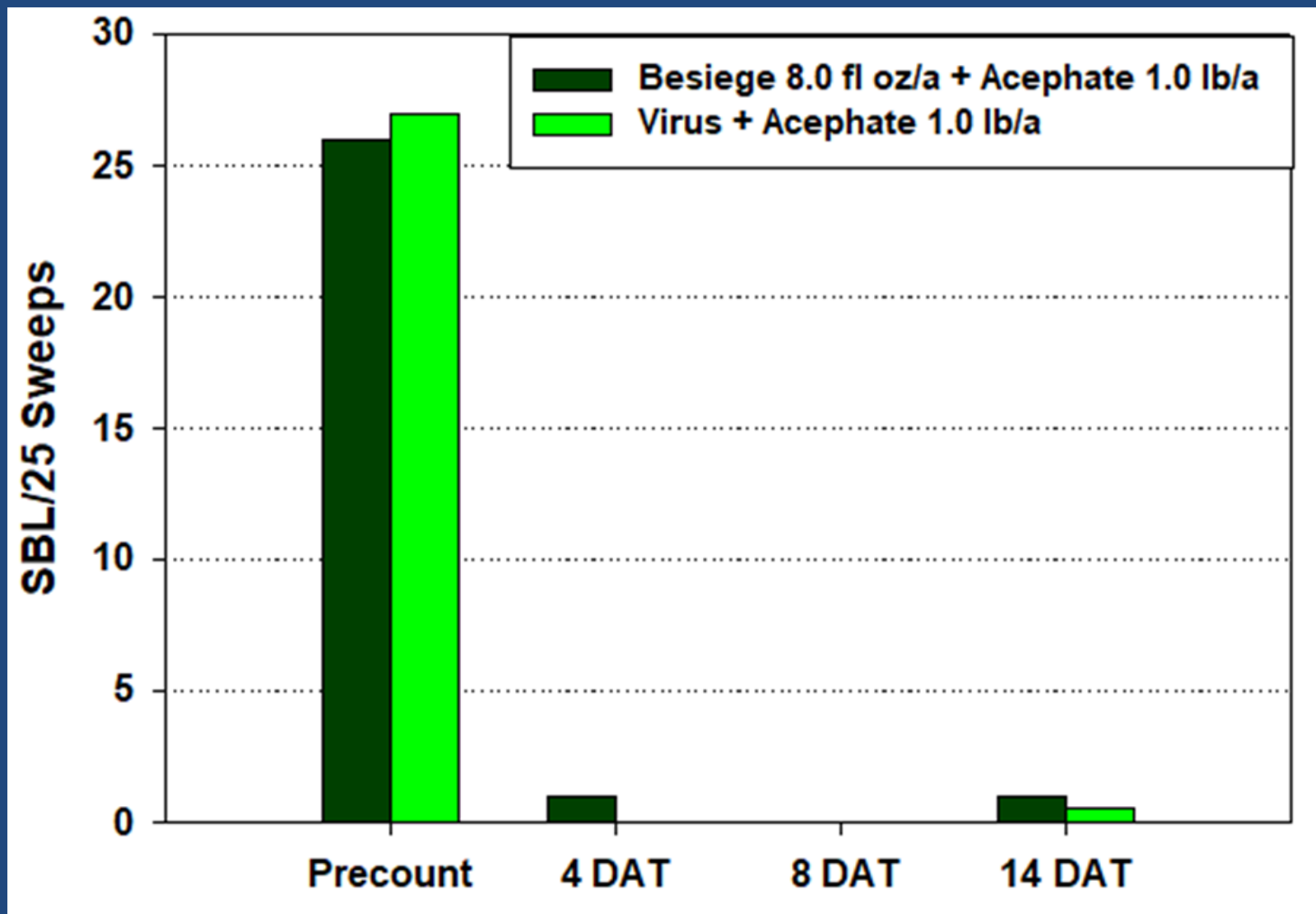


# NPV LIMITATIONS

- Temperature
- Limited scope of activity
- Environmental conditions
- May miss large larvae
- Slow speed of kill

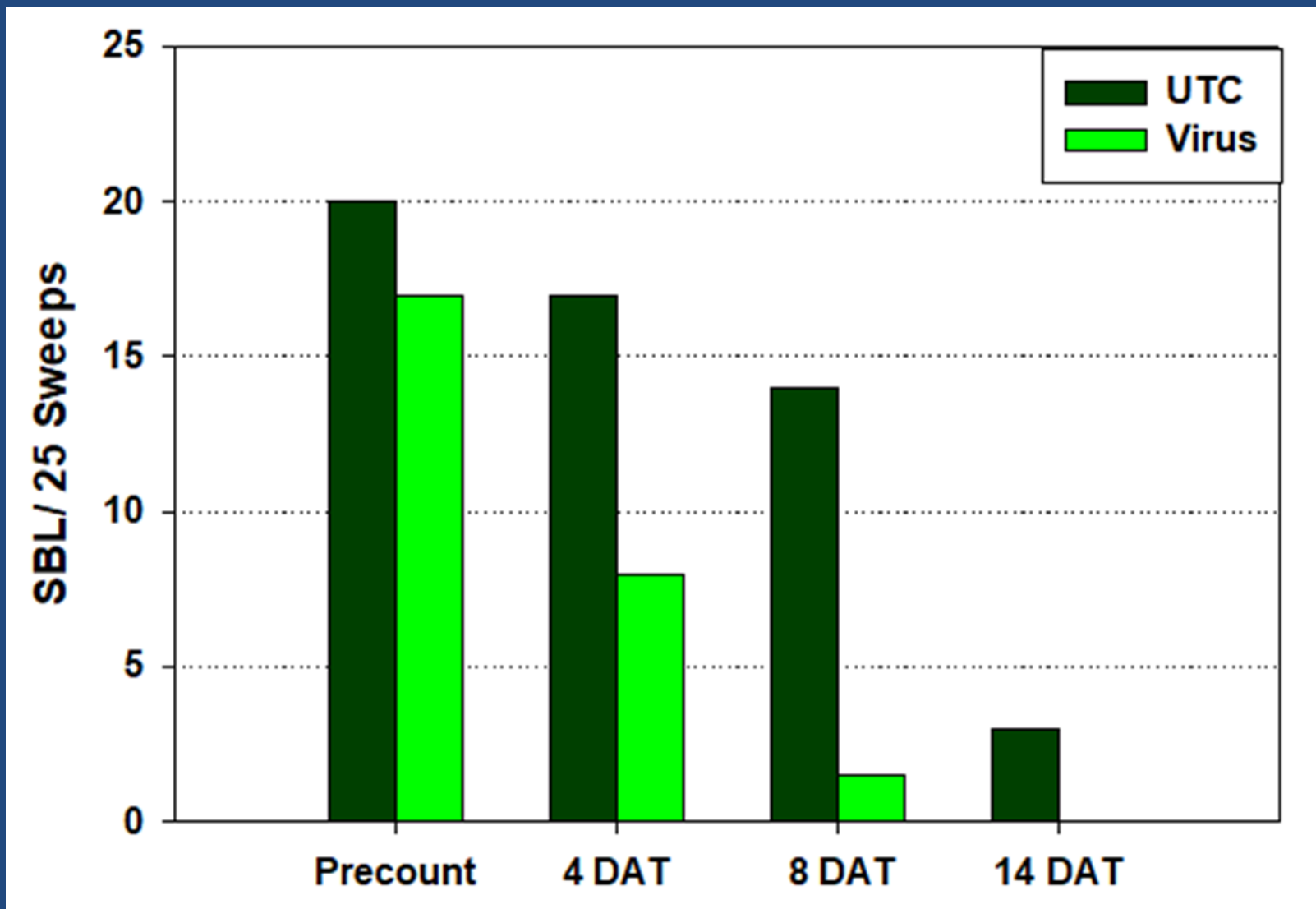


# SOYBEAN LOOPER VIRUS: RICHLAND PARISH LOUISIANA



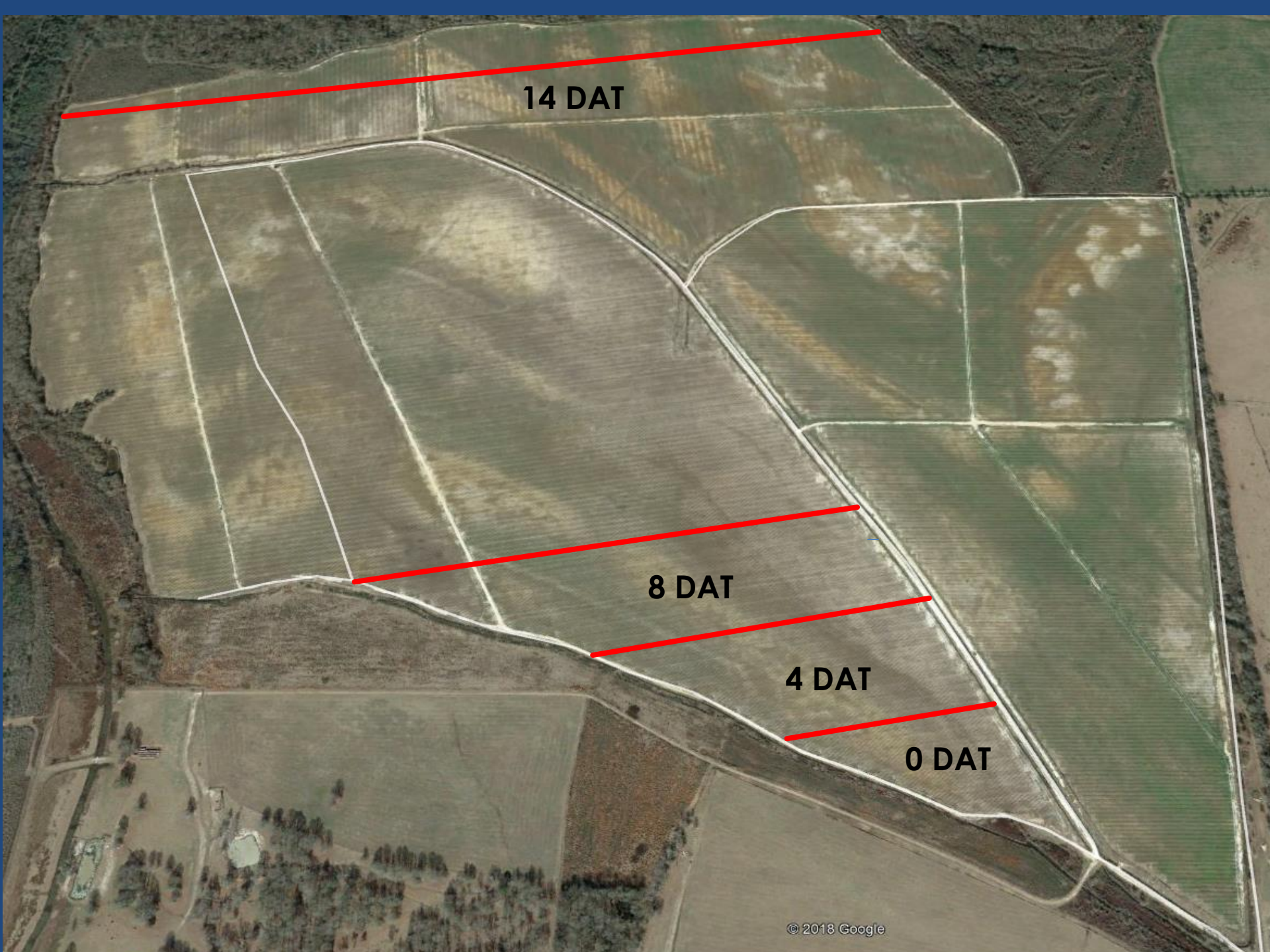


# SOYBEAN LOOPER VIRUS: FRANKLIN PARISH LOUISIANA









**14 DAT**

**8 DAT**

**4 DAT**

**0 DAT**

# THANK YOU – QUESTIONS?

