BMSB: IMPACTS & BIOLOGY

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GLOBAL TRIALS & DATA INSIGHTS MANAGER

OVERVIEW

1. Two-year project on biology (natural):
   Where it lives & feeds & when it breeds → control

2. Impacts (natural & bagging):
   Timing & type of damage → postharvest management

University of Bologna: Dr Maria Luisa Dindo *et. al*

University of Modena and Reggio Emilia: Lara Maistrello *et. al*

NATURAL – WHAT DID WE DO?

- Hayward & Gold3, two orchards in Emilia-Romagna (North East Italy)
- Sampling March – November (Spring to Autumn)
- Life stages (6), overlaps, numbers individuals & cycles
- Location & hosts
- Impact
- Biological control agents

IMPACT – WHAT DID WE DO?

- From the natural trial timing and level of damage
- Gold3 & Hayward bagging trial 45-50 day post-fruitset to harvest, fortnightly
- Adults put into bags (one per fruit for one week)
- Within season, at harvest & post-harvest (three months) fruit assessments
- Orchards in Emilia-Romagna (North East Italy)

NATURAL – WHAT DID WE FIND?

Early Summer

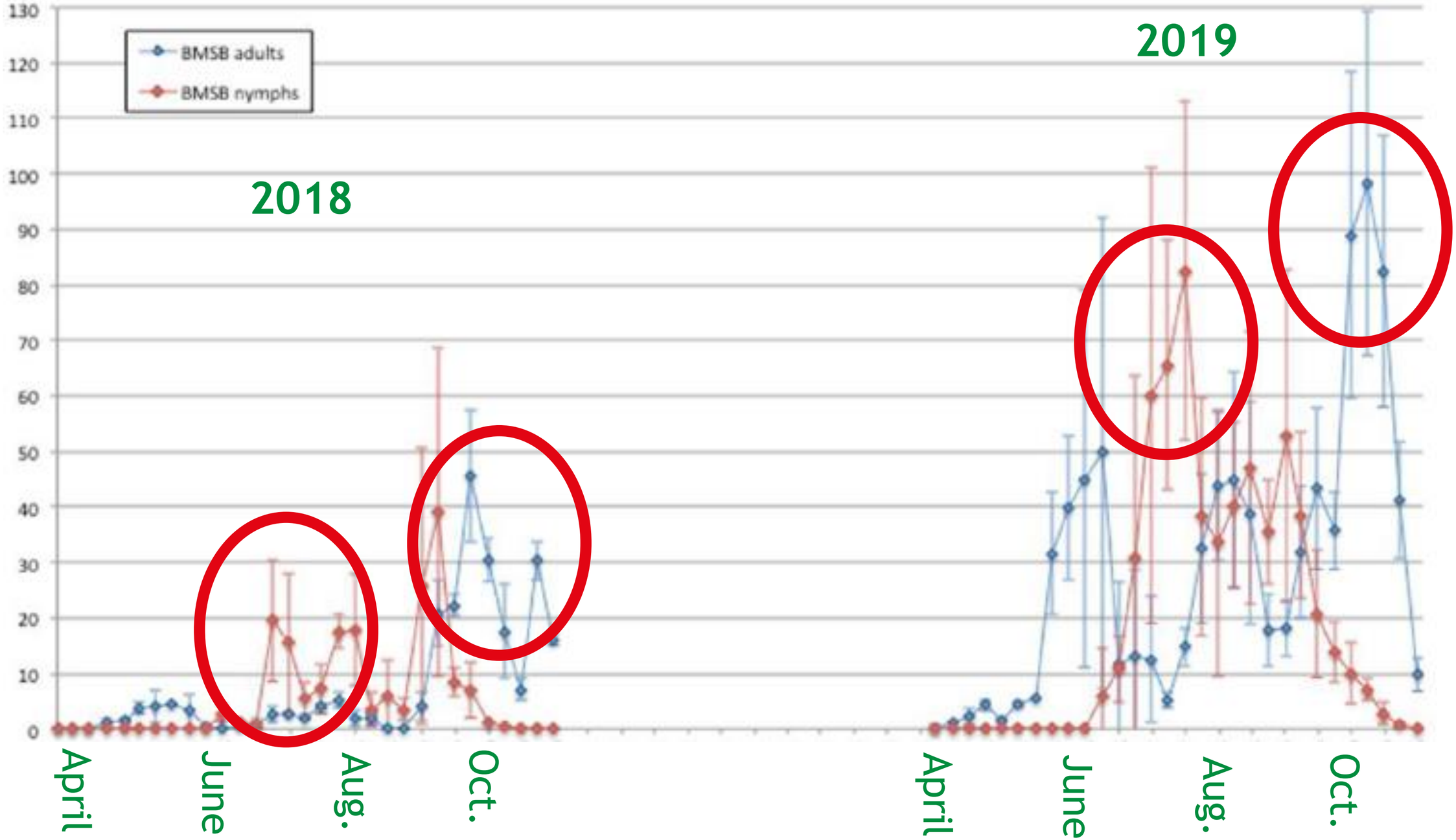
Mid Summer

Autumn

Spring

Other hosts:
Cherry trees, apricots, maples
(lesser extent Judas tree & persimmon)
& weed species with fruit (e.g nightshade)

NATURAL – WHAT DID WE FIND?



IMPACT – NATURAL INFESTATIONS

- Damage observed from June in Hayward & July Gold3
- Second half July into August stabilized & increased through harvest
- Damage was high up to 90% but **no insecticides**

Hayward withering Gold3 fruit drop

BAGGING - IMPACT

- Gold3 severely affected by fruit drop (worst 93%) – storage trial abandoned vs Hayward worst 30% (vs previous data Italian and Chinese) **no insecticides**

- The more sting events, the more damage (particularly Gold3) and related to weather (high temps 33-35°C – lethal; high humidity favorable)

- Timing:
  Mid-August worst damage in Gold3
  Late-August/early Sept worst damage in Hayward
  Peaking of adult numbers?

- No evidence of BMSB damage in storage (Hayward)

BIOLOGICAL CONTROL AGENTS – OPTIONS?

- Presence of European earwig, spiders and ants – impact unknown
- Parasitoids:

Tachinid parasitoid
(didn't complete development)

Hymenoptera
(low levels, id's incomplete)

WHAT DOES THIS ALL MEAN?

- Kiwifruit are susceptible to attack whenever fruit is present
- Potential for a second generation (less so NZ?) so act early
- Both cultivars are hosts – impact is a different (postharvest implications)
- Biological control agents – options but more work to be done…

WHAT CAN NEW ZEALAND GROWERS DO?

CATCH IT

SNAP IT

REPORT IT

Pest and disease hotline – 0800 80 99 66