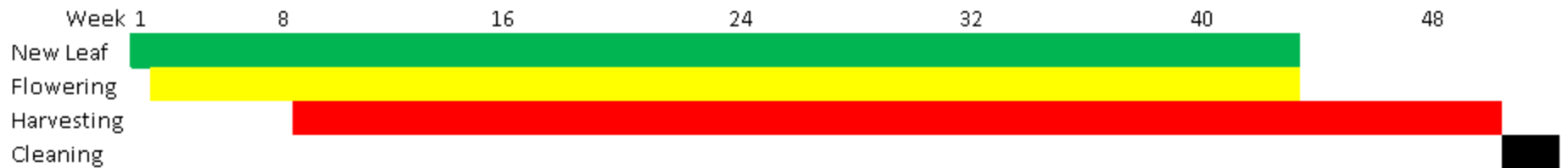


# Glasshouse Tomatoes

Oxamyl and Methomyl

# Glasshouse Tomato Production

- Each glasshouse works on an annual cycle



# Bumble Bees



# Honey Bees

- Honey bees are not used in the glasshouse for pollination
- Honey bees are physically excluded because of the glasshouse structure
  - Occasional accidental entry via vents
- In my experience, and in that of other growers I have asked, Honey Bees do not enter the greenhouse looking for flowers to pollinate
  - The “attractiveness” of tomato flowers to bumble bees is often thought of as being low

# Methomyl In The Real World

- Registered for use on tomatoes
- Gets used because
  - it has a 2 day WHP
  - only one of two carbamates (the other being oxamyl) so is good for resistance management
  - While there is some resistance out there, when used in proper rotations it is still effective
  - Assists in meeting export requirements

# Methomyl In The Real World

- Label says “Spray must not contact other plants from 10 days before flowering to petal fall if the plants are likely to be visited by bees”
- Tomato registration is logically contradictory to that statement
- Remove hives for 72 hours is what 2 European bumble bee breeders advise for bumble bee health
  - Has pollination implications for the crop if left that long
- Practical observation is that removal for 24 hours is ample

# Oxamyl In the Real World

- Applied through the irrigation system
  - Sometimes called a “drench”
- Withholding period means it can only be used at the start of a crop
- Used because it selectively controls whitefly without harming *Encarsia* (beneficial insect)
- Close hives while in use is what 2 European bumble bee breeders advise for bumble bee health (no residual effects)

# Oxamyl In The Real World

- Removing it will lead to decreased use of IPM and increased other Ag Chem usage
- The Vydate label does not mention bees or bee health



# A Note On The Data

- The stated Post Application Effects of both compounds is at odds with
  - Koppert and Biobests “side effects” information
  - Observed effects over 20+ years in NZ
- It assumes there are honey bees in the glasshouse in the first place at all (wrong)

# The Problem With The Proposal

- Honey Bees are not in the glasshouse and therefore should be excluded from the recommendation outright
- Bumble bees
  - Commercially bred for and belong to the grower
  - Controls The Staff have recommended are unnecessary for bumble bees

# The Problem With The Proposal

- 8 and 10 days is totally impractical for a crop that continuously flowers
- The effective question here is “do you want to ban the use of methomyl and oxamyl outright?” because that’s what it will mean
- To say this is the same as the situation prior to 2013 is naive of previous use patterns – it will be a change in the real world

# The Problem With the Proposal – Resistance Management

- Saying there are other approved insecticides demonstrates a total lack of understanding of the current situation
- Its not about just oxamyl or methomyl, it is about having a package capable of doing the job
- Resistance management is in critical condition in some areas of NZ
- It is thought there is some level of resistance to every group of ag-chem that is useful to glasshouse tomatoes except one

# Whitefly Damage



# Whitefly Damage



# The Problem With the Proposal – Resistance Management

- There are no new options available
- The glasshouse sector is trying but making no progress
  - Macrolophus
  - Limonicus
  - Entomopathogens

# Our Recommendation

- Accept that Honey Bees aren't found in glasshouses
- Accept there is very manageable risks to Bumble Bees in glasshouses, and/or that they should not be included in these circumstances anyway
- Allow oxamyl use in glasshouses without non-contact periods
- Allow methomyl use with a 24 hour guidance non-contact period



# The Role Of Government

- Government and industry have a dual responsibility to be able to provide safe, sustainable and compliant production of food (because that's what NZers demand)
- Government would fail that responsibility by removing Oxamyl and Methomyl at this time

# The Future

- Lets have a proactive discussion about the future of pest and disease control instead of wasting resources doing endless assessments and reassessments
- We must see the big picture of managing pests and diseases rather than just micromanaging one ag chem at a time