Fruit fly - practical controls
A systems approach

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Fruit fly – the enemy

• Fruit fly is a very serious threat
• Potential for significant crop loss
• Best tackled with a ‘systems approach’
• Good results are possible
• Need to understand the biology and behaviour of the pest
Fruit fly refresher course

Adult flies:

• are long lived
• can travel some distance
• female flies require a protein feed for eggs to mature
• male flies also actively seek protein
• the sexes behave differently
• there are big differences between sex and feeding attractants
Changing Status of Fruit Fly in Australia

• Qld fruit fly is extending its range

• As a result of:
  • Expanding and contiguous horticulture
  • Climate change
    • Winters less cold
      • Duration
      • Minimum temperatures
    • Changing rainfall patterns
Available tools

- Protein bait sprays
- Monitoring
- Male annihilation
- Sanitation

- Crop management
- Physical control
- Cover sprays (insecticides)
- Biological control
- SIT
- Post harvest
A ‘systems approach’

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Protein bait sprays

- This is the essence of fruit fly management
- Adult flies emerge from the soil after pupation
- Females need to mate and feed on protein before they can lay eggs
- We have a 5-7 day window before they can damage fruit
- Protein can be acquired from fungi or bacteria - or from our applied bait sprays
Tips for best results

• Start early, before fruit is susceptible
• Apply regularly
• Don’t ‘miss’ a treatment
• Place on foliage or trunk
• Never on ground or grass
• Re-treat after rain
• Increase frequency during high risk periods
• Apply fresh
Tips for best results

• Not all proteins are equal
  • protein content (%)
  • preservatives

• Use thickeners
  • resistance to weathering
  • hygroscopic - remains moist for longer
  • enhanced attractiveness
  • use when extra control is required
Monitoring

Trapping of fruit flies

• Male specific traps
• Indicator of population trends only
• Effective female trap still eludes us
Monitoring

- Monitoring should also include:
  - regular field assessment
  - possibly twice weekly in critical periods

- Look for:
  - adult flies visible
  - evidence of ‘stinging’
Male annihilation technology (MAT)

- Suppression of the male fly population
- An invaluable tool in an area wide management (AWM) program
- Incremental gains over time
- Has been a big part of the steadily improving fruit fly situation in the Central Burnett
Sanitation

• Remove all fruit after harvest
• Late hanging fruit are high risk
• Issue of fallen fruit...
  • If stung review procedures
  • If not stung then little risk
Systems approach

Several components to achieve best practice fruit fly management

- Monitoring
- Protein bait sprays
- Male annihilation (MAT)
- Sanitation
Central Burnett AWM

- The Central Burnett has an enviable record when it comes to fruit fly management
- Protein baiting has never been replaced by cover sprays
- We have learnt a lot over time
  - Improved protein baits
  - Better toxicants
  - Use of MAT technology
  - Fine tuning
    - Timing, monitoring, rates, etc etc
Area Wide Management

• Fruit Fly Force has been in place for around 15 years in Central Burnett
• Industry funded
• Steady reduction in fruit fly pressure over time
• It is rare for growers to experience fruit fly damage if they ‘get it right’
Area Wide Management

• Results have been outstanding
• Other horticultural districts are in near panic by comparison
• Important that we do not become complacent
• Some growers have ‘dropped their guard’
• Imperative that we maintain our focus on this important pest