

Insects - their effects and management



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Rutherglen Bug



Helicoverpa



- **Biology & Ecology**
- **Management**
 - including insecticides
- **Natural Enemies**

Rutherglen Bug in Sunflower



D. Ironside



D. Ironside

Nysius spp.

- 2 pest species
- Rutherglen bug

Nysius vinitor

- Grey Cluster Bug

Nysius clevelandensis



Nysius spp. in NNSW/SQ

- Adults of both species on spring sunflower plantings
- >98% adults were *N. vinitor* in late plantings
- Only *N. vinitor* nymphs on sunnies

D. Ironside



Nyctalus Ecology

Develop on winter weed hosts
in inland areas

R. Lloyd



D. Murray

**Sept 2005
roadside
weeds -
wide host
range**



Queensland Government
Department of Primary Industries and Fisheries

Nysius Ecology



Nysius Ecology

- Develop on winter weed hosts in inland areas
- Migrate in spring as weed hosts hay off
- Spring/summer generations on weeds and crops



Bugs in canola

Nysius Damage

- Budding sunflower
- High numbers and moisture stress
- Not normally an issue for irrigated crops at budding



Nyctius Damage

- Reduce yield, quality, oil content and germination



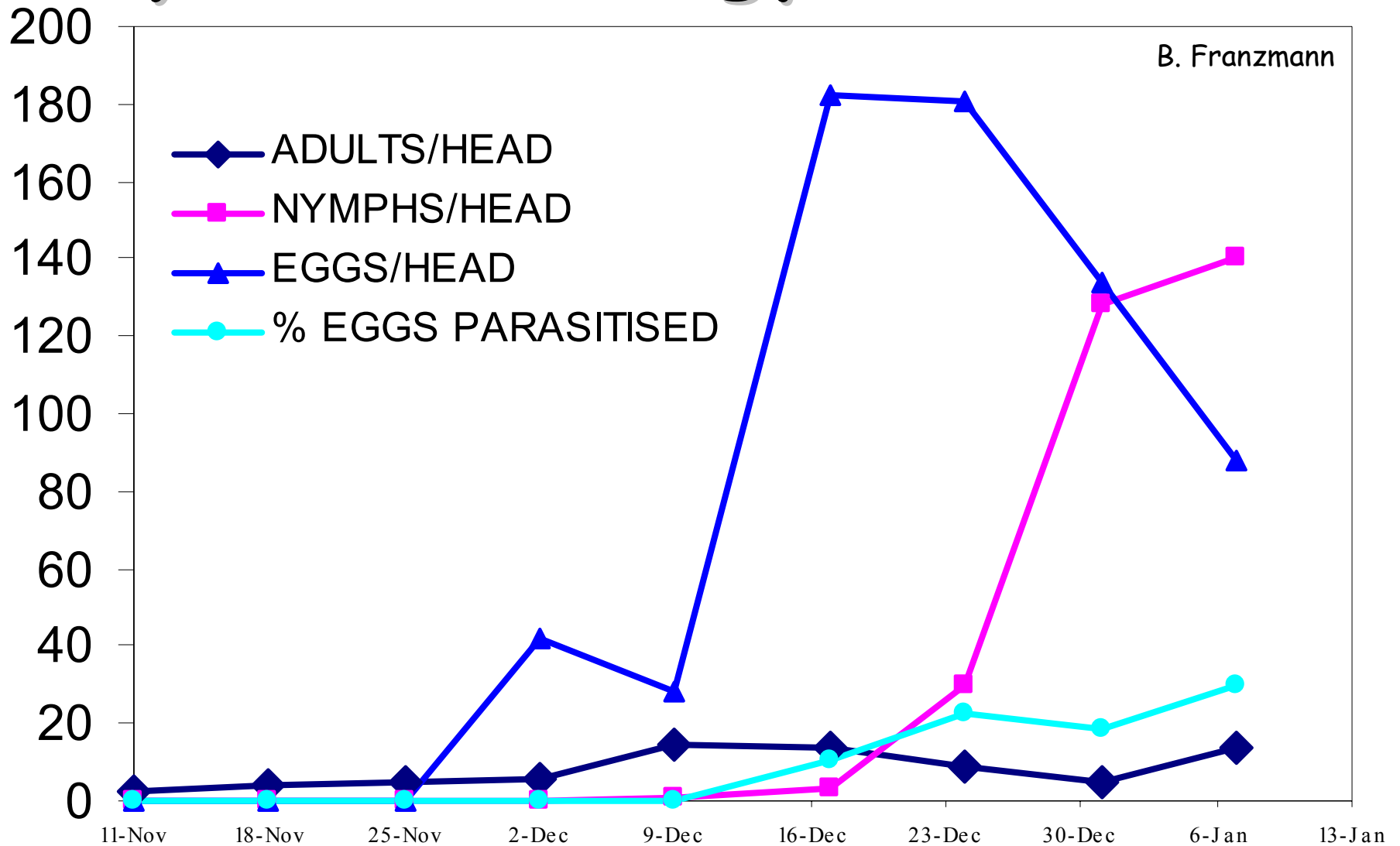
D. Ironside

Nysius Thresholds

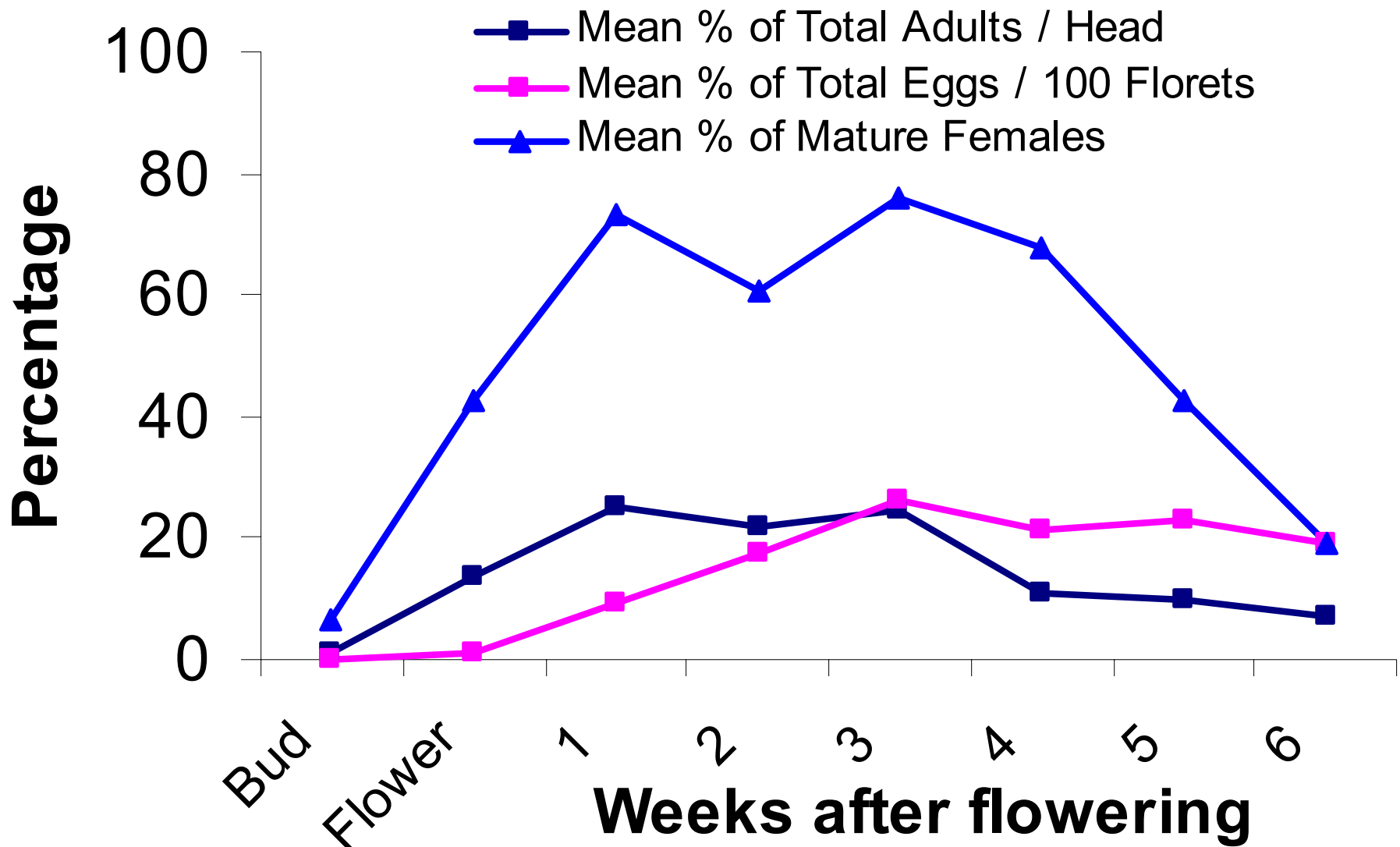
Sunflower

- Invading adults at budding
10 bugs/head Aug to Dec
- Breeding populations post
flowering
25 bugs/head to late Jan

Nysius Phenology on Sunflower



Budding | **Anthesis** | **Seed Development** | **Maturity**



B. Franzmann



Bug Options - Registered

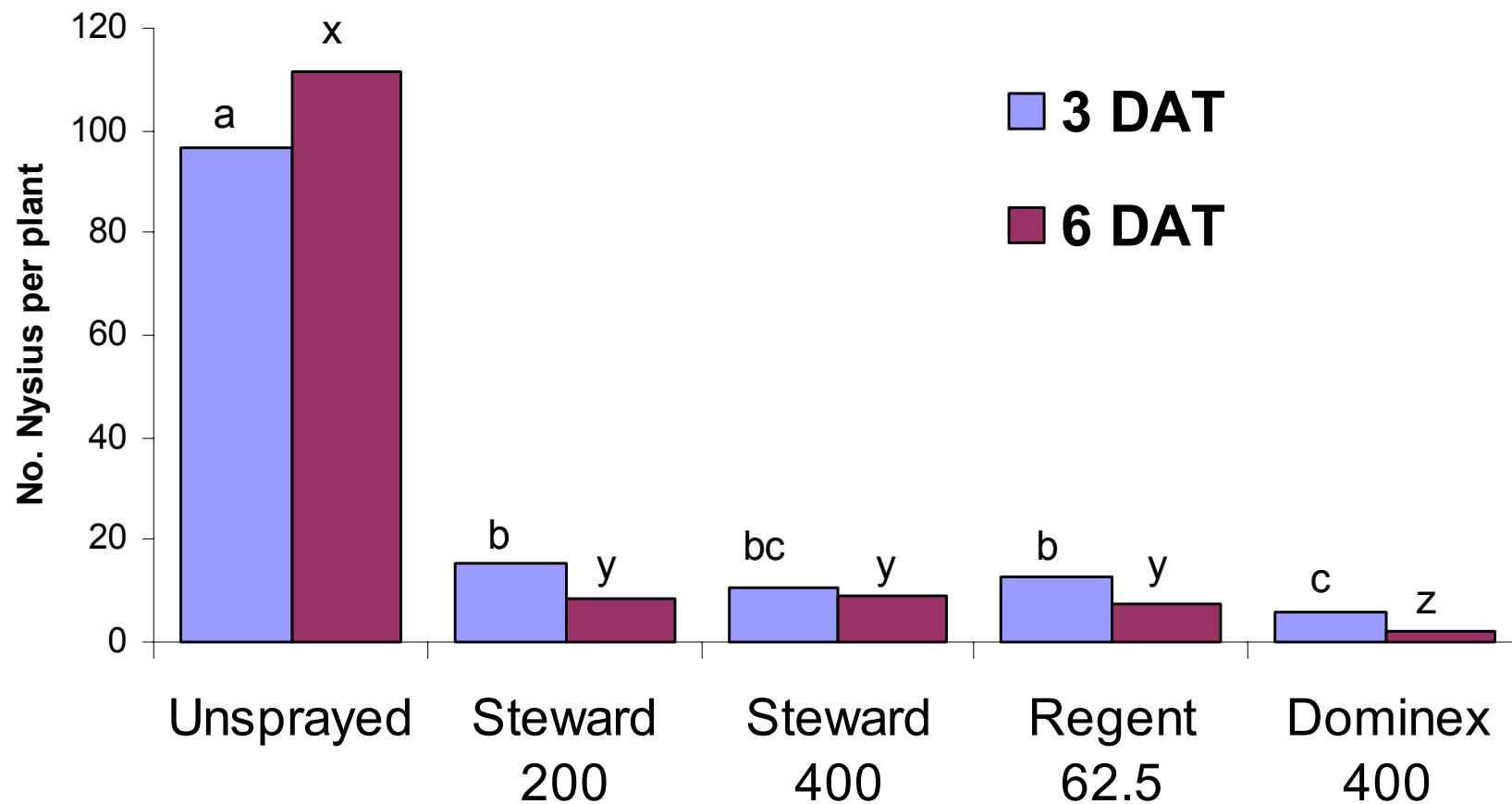
- **Note - endosulfan not registered**
- **Pyrethroids**
- **Associated problems - but cost effective!**
- **Broad spectrum**
- **Poor results when heads turned down**
- **Avoid bees during flowering**

New Bug Options - Not Registered

- Regent[®] (fipronil) ?
- Steward (indoxacarb) ?
- Confidor[®] (imidacloprid) ?
- Intruder[®] (acetamiprid) ?
- Affirm[®] (emamectin) ?
- Others ?

Bug Trial 2006

SUNFLOWER 05-1



Grub Pest



- *Helicoverpa* spp.
- Attack most crops grown
- High chemical reliance

Two species of heliothis
(*Helicoverpa*)
armigera & *punctigera*

“local”

immigrant

resistant

susceptible

Helicoverpa Thresholds

Sunflower

- >2 small larvae per plant
- OR
- >1 medium larva per plant

Helicoverpa Damage

Sunflower

- 17 larvae per plant
- No yield loss
- Feeding on leaves and back of heads

Helicoverpa Damage



Helicoverpa Damage



Helicoverpa Damage



Large larvae
at budding
more serious

D. Murray

Helicoverpa Issues

- Much has happened in last 5-10 years

Biopesticides

New insecticides

IPM & Biocontrol



Helicoverpa Management

- *H. armigera* resistant to most older insecticides
- Pyrethroids
- Carbamates
e.g. methomyl
- IRMS in place



R. Lloyd

Helicoverpa Management

- Are there any dual purpose products - bugs and grubs?
- Yes, if *H. punctigera*!
- Pyrethroids cost effective
- If *H. armigera*, poor grub control likely

Helicoverpa Management

- New, more selective options for grubs in future?
- Steward[®] (indoxacarb)
- Gemstar[®] or Vivus Gold[®] (NPV)

Natural Enemies



- Many parasites and predators



- Avoid disruption with broad spectrum insecticides

Main Message

- It's been one of those years
- Highlights the importance of regular monitoring