





## Pests in Cropping Systems in 2014 (the bad, the ugly and the good!!)

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#### **Pest Outbreaks**

- Are often signs of ecological imbalances
- •Can often be linked to use of broad spectrum insecticides that kill all species inc. pests and natural enemies.
- •Can be a result of resistance to commonly used chemicals
- Are exacerbated by lack of diversity (eg crop monocultures)
- •Changes in farming systems can change pest and beneficial species abundance and distribution.
- •This season has been exceptional....good for all species!!













- Many species, mostly specific to the crop, except Green
  Peach aphid (GPA)
- Virus transmission by aphids into crops important
- Beet Western Yellows Virus has caused major damage in SA this year (GPA)
- Barley (Cereal) Yellows Dwarf virus important
- Aphids mostly controlled by all the natural enemies.









## Cutworms (larvae of Bogong moths)







- Cutworms have been damaging many cereal crops this season
- Spring/Summer could see a major hatching of moths (towns invaded!!)
- Larvae are mostly nocturnal so monitoring and controls are best done early evening.



#### **Lucerne Fleas**





- Massive numbers of Lucerne Flea seen on clover this season.
- Early autumn break this year gave perfect conditions for LF
- Pasture and crop growth rates out ranked the damage caused.
- Pasture paddocks going into crop next year at risk
- LF mostly resistant to SP chemicals.
- Border sprays for crops is usually all that's needed



## Slugs attacking crops







- Several species often occurring together
- Grey Field slug
- Black Keeled slug
- Brown Field slug

Picture Mark Branson, SA







# What drives slug numbers? Moisture!

## **Contributing factors:**

- Previous paddock history/pop'n size
- Low/no cultivation
- Stubble retention (habitat & moisture)
- Heavier soils (retain moisture)
- Rainfall: >450mm/year
- Summer rainfall increases populations









## **Research Results on Slug Control**

Dr Michael Nash (SARDI, Adelaide)

- Baits must be applied directly after sowing to protect seedlings
- Just because you cannot find slugs doesn't mean they will not be a problem
- Surface application is still effective even when slugs are feeding on seedlings along the drill row
- Drilling baits does not improve efficacy
- Monitoring with surface refuges such as tiles was not effective this season as soil conditions were quite different to other years.







## **Slaters/ Pill bugs**

## Lifecycle/description

- Crustations related to crabs and lobsters; terrestrial but moisture dependent
- Stubble provides a cool, moist habitat; crumbly clay soil surfaces aid their survival
- Feed on decaying vegetable and animal matter; can damage all crops
- The Australiodillo bifrons slater species has the ability to swarm
- Prevention is best

## **Damage**

Canola and lentils









## Flood bugs at Coonamble, NSW 2013 photo Rohan Brill, NSW DPI













# Black Portuguese millipedes

## Lifecycle/description

- Active in autumn and spring
- 2 years to sexual maturity
- Easily distinguishable from native species

#### **Damage**

- Mainly organic matter feeder, attacks canola and cereals
- Associated with black organic soils (although damage has occurred on lighter soils)
- Foliar grazing, cotyledons/leaves
- Nocturnal feeders











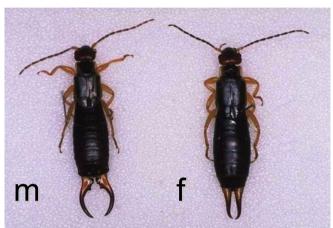
## **European earwigs**

## Lifecycle/description

- Adults 20 mm long
- Easily confused with beneficial earwigs

#### **Damage**

- Adults and nymphs attack canola, lupins, cereals
- Associated with heavier soils, stubble
- Irregular chewing of leaves, cotyledons, stems (similar to slug damage)
- Can also chew through seed pods; and occasionally are a grain contaminant
- Nocturnal feeders (inspect at night)







# Don't forget the value of the Good Guys in keeping pest numbers under control















#### **Important Resources**





 Pestfacts (CESAR Uni Melbourne)email subscription and website

http://www.cesaraustralia.com/sustainable-agriculture/

Murrumbidgee Landcare website (and my notes)

http://www.murrumbidgeelandcare.asn.au

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