THE UWA INSTITUTE OF AGRICULTURE

Postgraduate Showcase 2014: Frontiers in Agriculture

NUTRiBULLET

As seen on TV
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Results of the silver bullet?

- ALS inhibitors
- Synthetic auxins
- PDS inhibitors
- EPSPS inhibitors
- Photosynthetic electron transport inhibitors
What is harvest weed seed control?
What is harvest weed seed control?
Crush?
Cart?
Cremate?
• 100% wild radish seed retained at harvest
• Over 90% of this is collected
• Of which over 93% is rendered unviable through treatment.

Seed retention diminishes when harvest is delayed highlighting a potential mechanism for evasion.
What capacity does wild radish have to change flowering?
Flowering date shifts to early FD selection

$FD_{50} = 59$ days
Flowering date shifts to early FD selection

$FD_{50} = 56$ days

$FD_{50} = 59$ days
Flowering date shifts to early FD selection

FD$_{50}$ = 51 days

FD$_{50}$ = 59 days
Flowering date shifts to early FD selection

FD$_{50}$ = 45 days

FD$_{50}$ = 59 days
Flowering date shifts to early FD selection

$\text{FD}_{50} = 37 \text{ days}$

$\text{FD}_{50} = 59 \text{ days}$
Flowering date shifts to early FD selection

FD_{50} = 29 days

FD_{50} = 59 days
Flowering date shifts to long FD selection?

FD\textsubscript{50} = 59 days
Flowering date shifts to long FD selection?

- $FD_{50} = 59$ days
- $FD_{50} = 79$ days
Flowering date shifts to long FD selection?

**FD<sub>50</sub> = 59 days**

**FD<sub>50</sub> = 114 days**
Diversity!

FD_{50} = 29 days
FD_{50} = 59 days
FD_{50} = 114 days
Can we diversity HWSC?

Emergence to Flowering (days)

Biomass (g)

$y = 0.562x - 14.123$

$R^2 = 0.9794$
Summary

1. Genetic variability and evolutionary potential of Wild radish.
2. Potential for HWSC evasion.
3. HWSC needs diversity just like herbicides.