Weed Management Trials in Specialty Crops

High –Value Crops Project
Harlene Hatterman-Valenti
Collin Auwarter
North Dakota State University

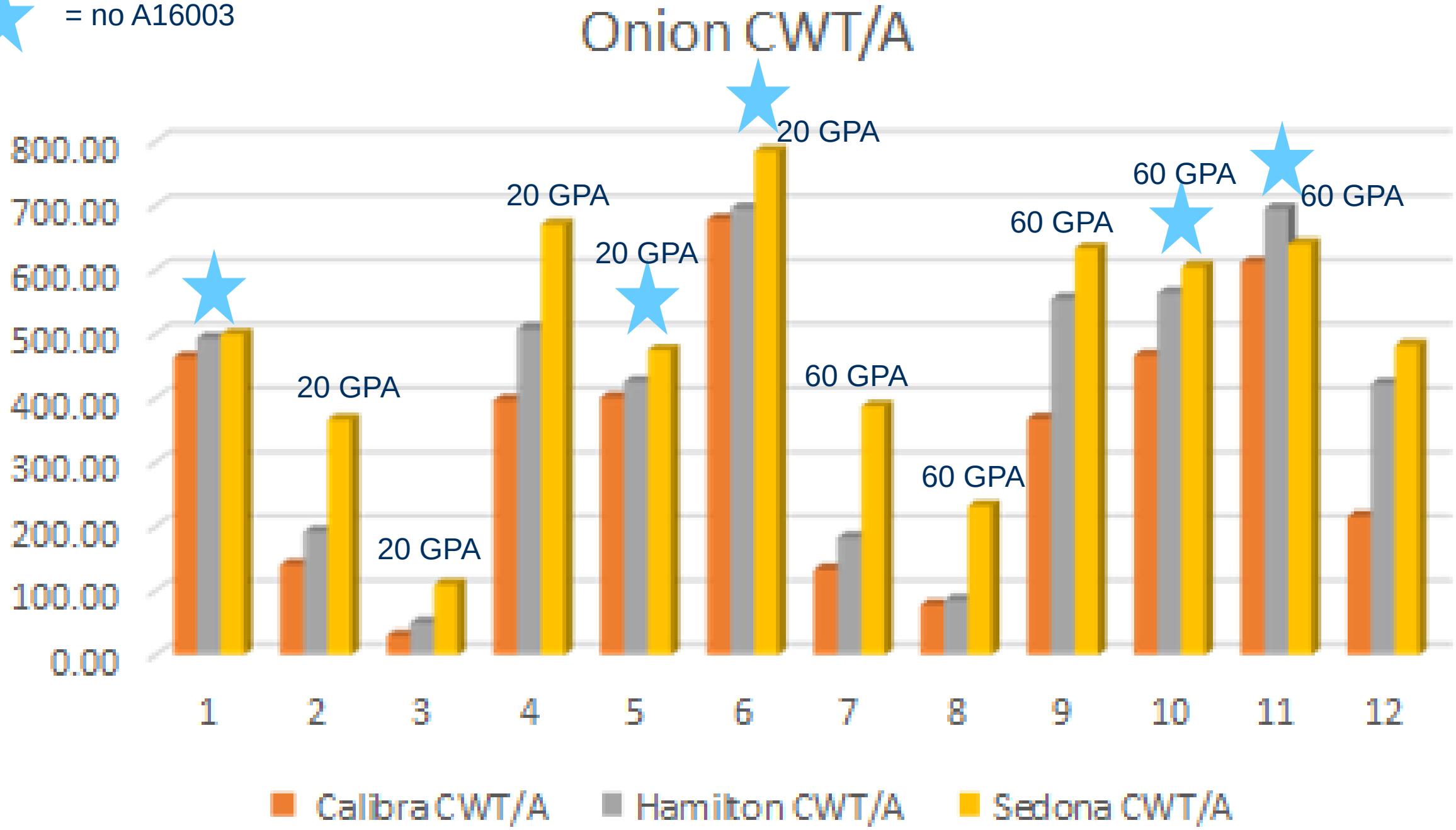
Onion Weed Control Trial

- Conducted field trial to evaluate water volume effect on A16003 activity.
- 4 cvs: Calibra, Delgado, Hamilton, Sedona
- Water volumes: 20, 50, 60 GPA
- Pre: Nortron 1 pt/A 10 DAP
- Early Post: A16003 49 DAP

7 DA A16003 application

7 DA Goal Tender @ 6 floz/A + Buctril @ 24 floz/A application

= no A16003


Onion CWT/A
800.00
700.00
600.00
500.00
400.00
300.00
200.00
100.00
0.00
20 GPA
20 GPA
20 GPA
20 GPA
60 GPA
60 GPA
60 GPA
60 GPA
1
2
3
4
5
6
7
8
9
10
11
12
Calibra CWT/A
Hamilton CWT/A
Sedona CWT/A

Conclusions

- Nortron provided poor PRE weed control due to insufficient water for activation.
- A16003 reduced onion stand with higher rates even though injury was not observed at the 2-3 leaf application.
- Increasing water volume had little effect on crop safety.
- Only trts 4/9 (Nortron fb A16003 by GT+Buctril fb A16003) had yields similar to trt 6 (Nortron fb GT fb GT+Buctril fb GT).

Simulated drift trial on Potato

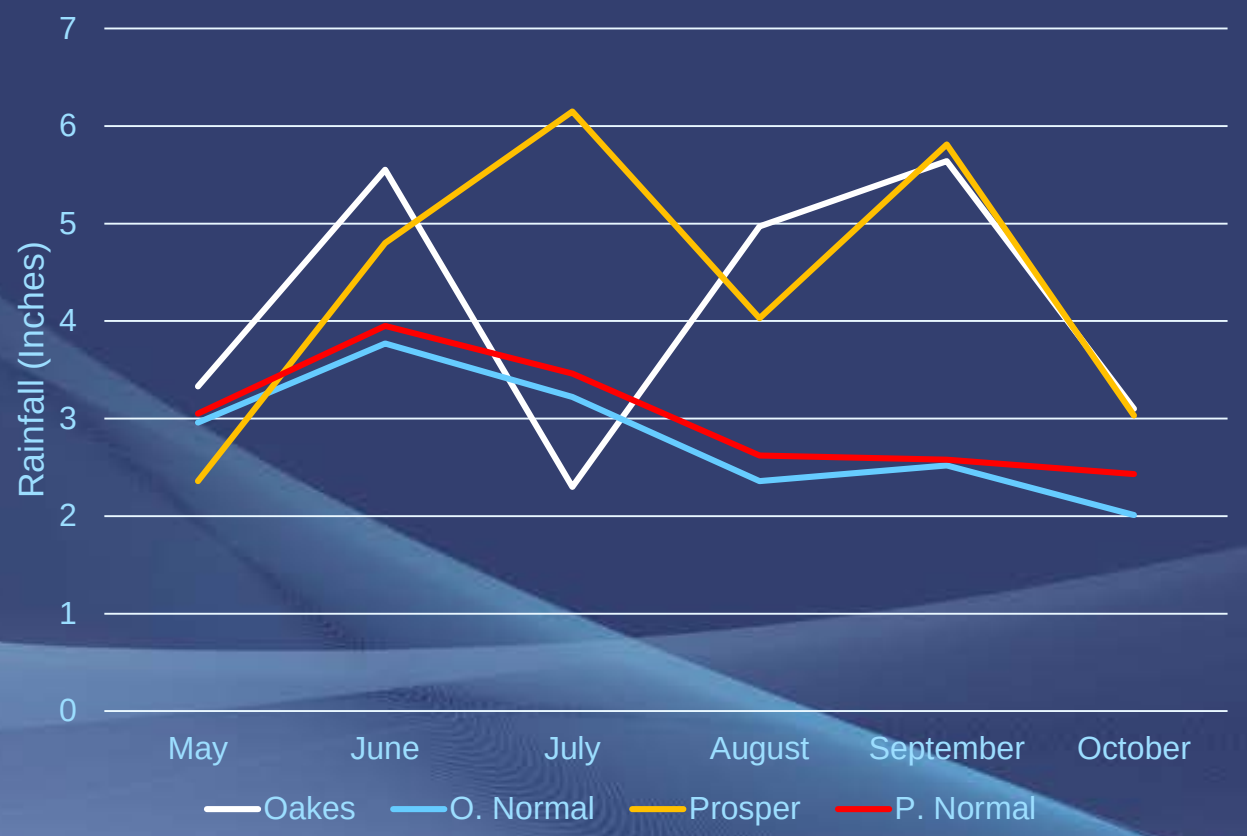
- Matthew Brooke MS research

- Glyphosate and/or dicamba simulated drift with 3 chipping cultivars.
  - Determined potential drift injury to commercial crop and to seed crop.

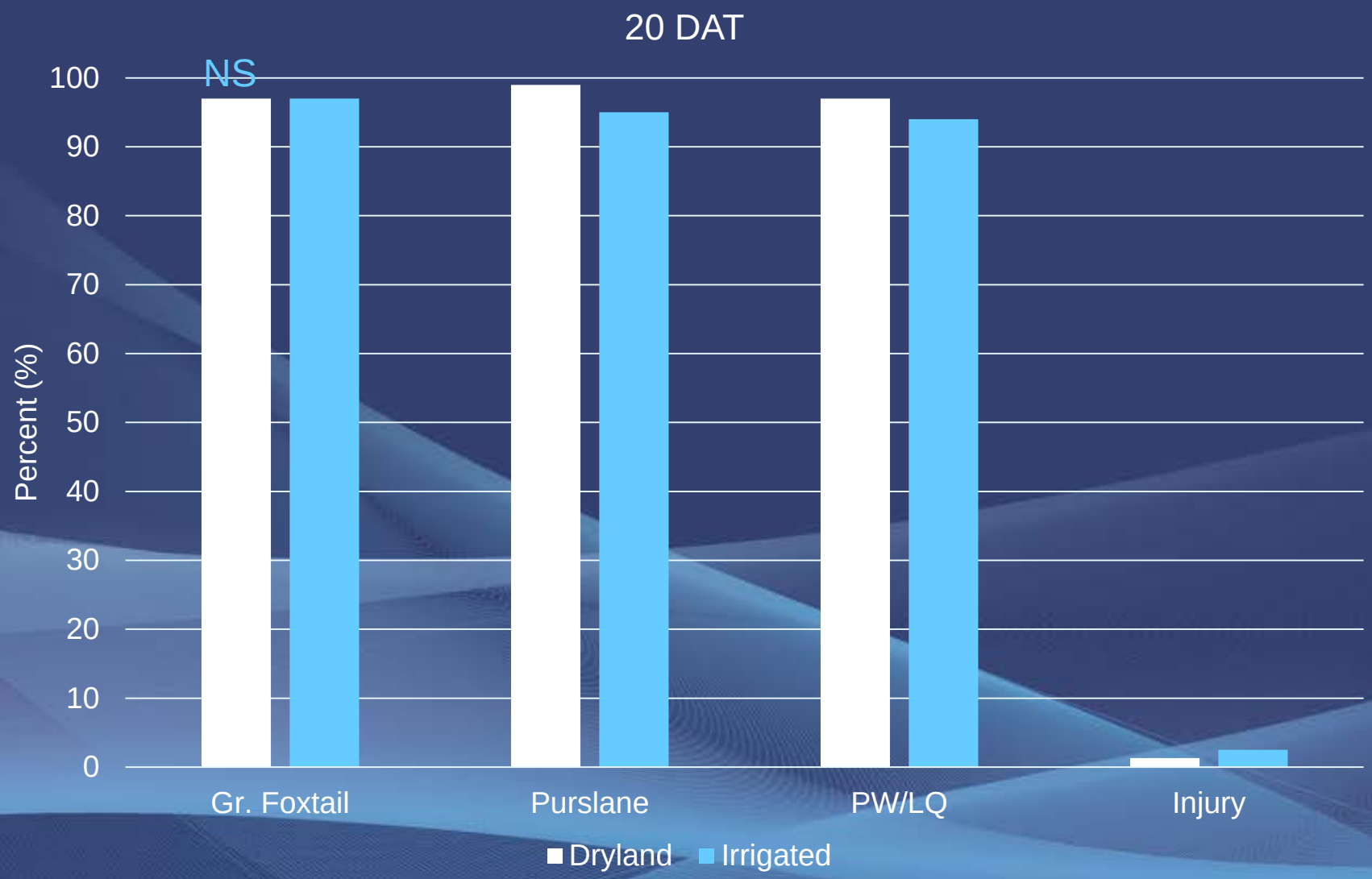
Pyroxasulfone trial

- Conducted field trials comparing pyrox. alone and in combination with labeled herbicides on:
  - Dryland & Irrigated Faba bean
    - Oakes and Absaraka locations
  - Safflower
    - Prosper
  - Trial done in collaboration with Dr. Burton Johnson.

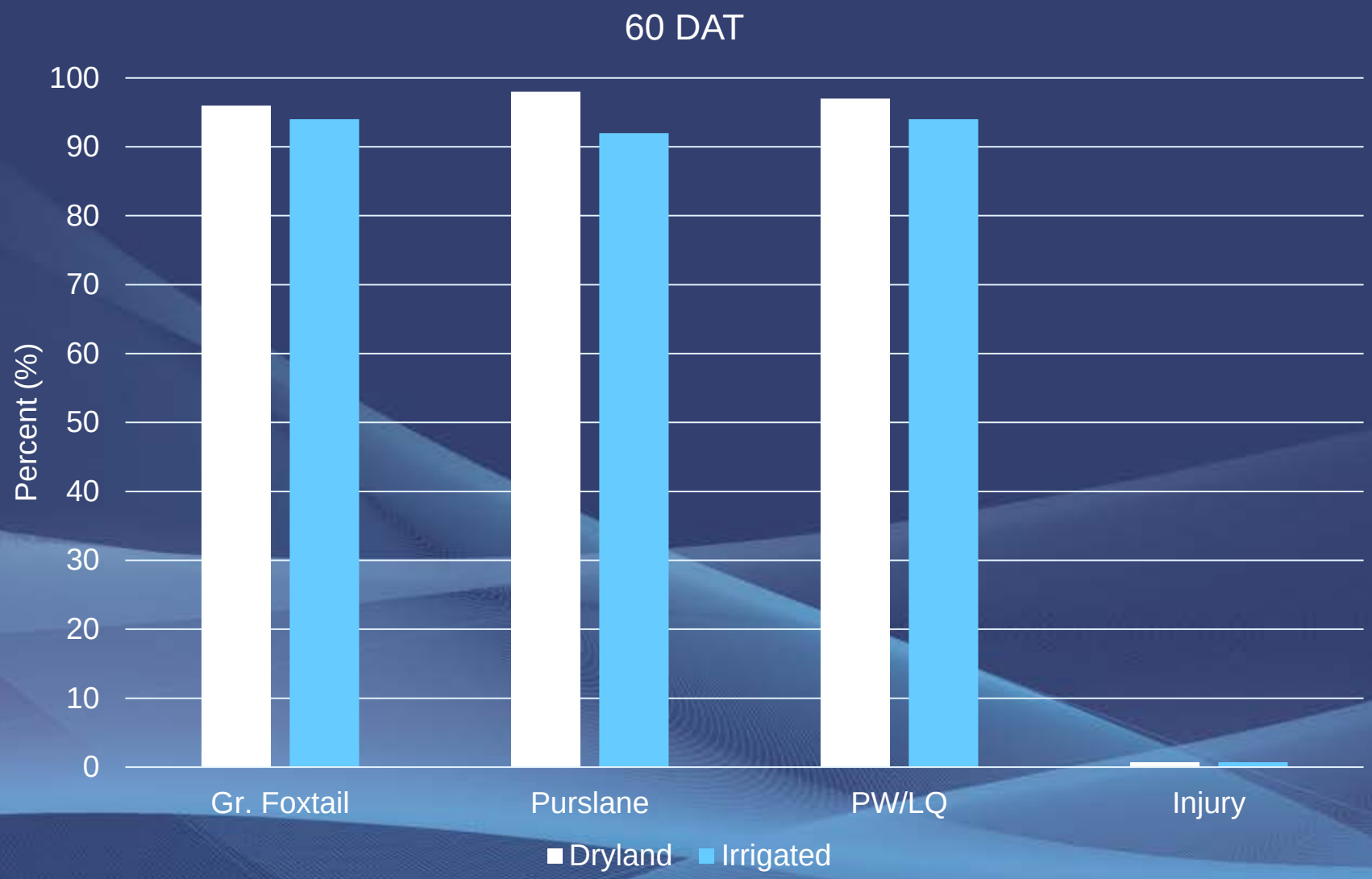
Rainfall


7
6
5
4
3
2
1
0
Rainfall (Inches)
May
June
July
August
September
October
Oakes
O. Normal
Prosper
P. Normal

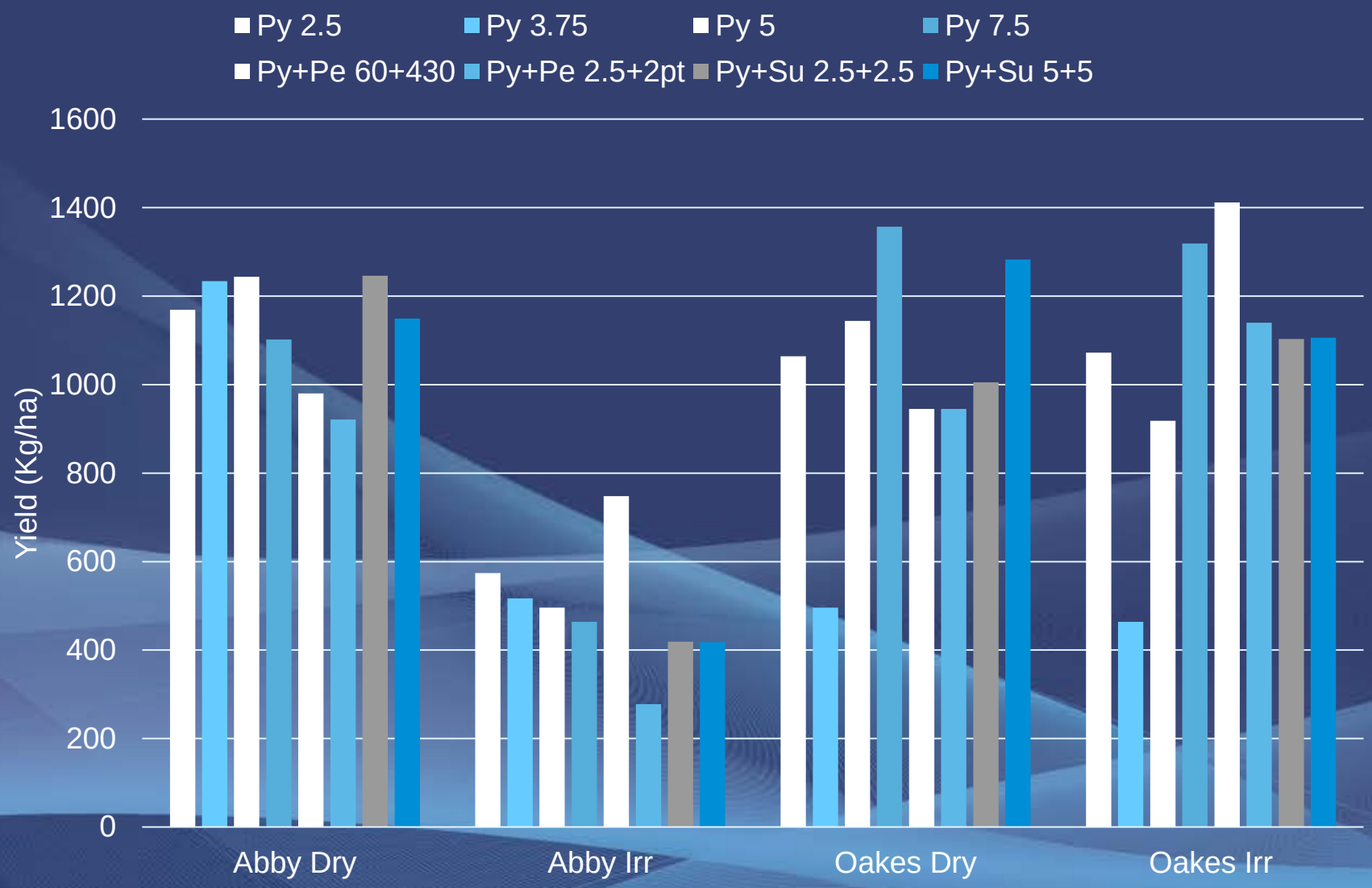
Results


20 DAT
NS
100
90
80
70
60
50
40
30
20
10
0
Percent (%)
Gr. Foxtail
Purslane
PW/LQ
Injury
Dryland
Irrigated

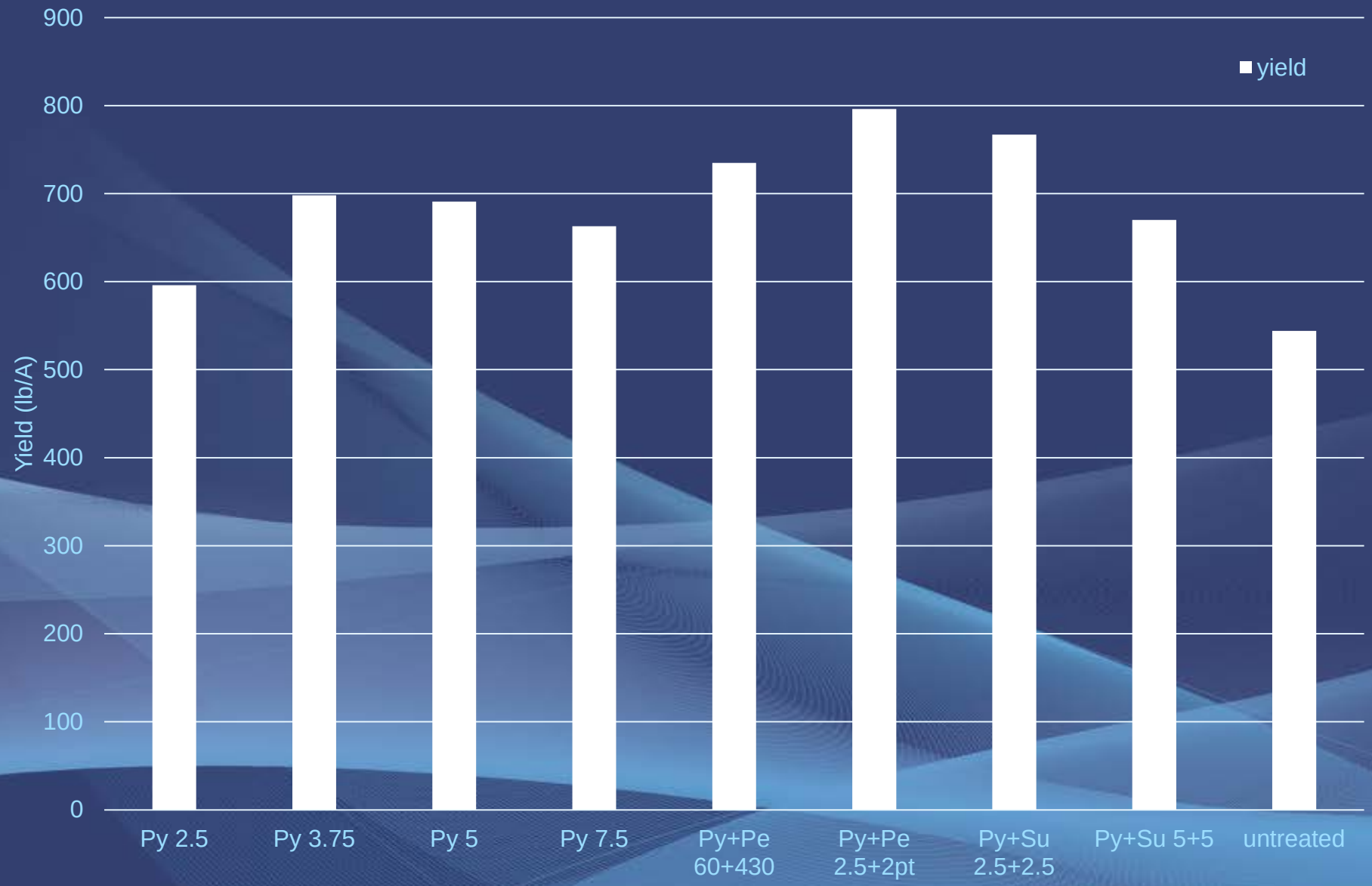
Results


60 DAT
100
90
80
70
60
50
40
30
20
10
0
Percent (%)
Gr. Foxtail
Purslane
PW/LQ
Injury
Dryland
Irrigated

Yield at 10% moisture



Safflower Yield



Faba Bean Oakes Dryland/Irrigated

Pyrox 180 – 80 DAT

Py+Su 120+120 – 80 DAT

Conclusions

- Faba Bean
  - 20 and 60 DAT
    - Pruslane and PW/LQ control was better and faba bean injury was less under dryland conditions compared to irrigated even though all provided > 90% control and < 5% injury.
  - No yield differences occurred due to environmental conditions.
- Safflower
  - Pigweed and green foxtail control was excellent.
  - No yield differences even though 252 lb/A yield difference between high and low yield trts and only two reps were harvested.

Questions