The potential of semi-dwarf cultivars in winter canola in the HRZ

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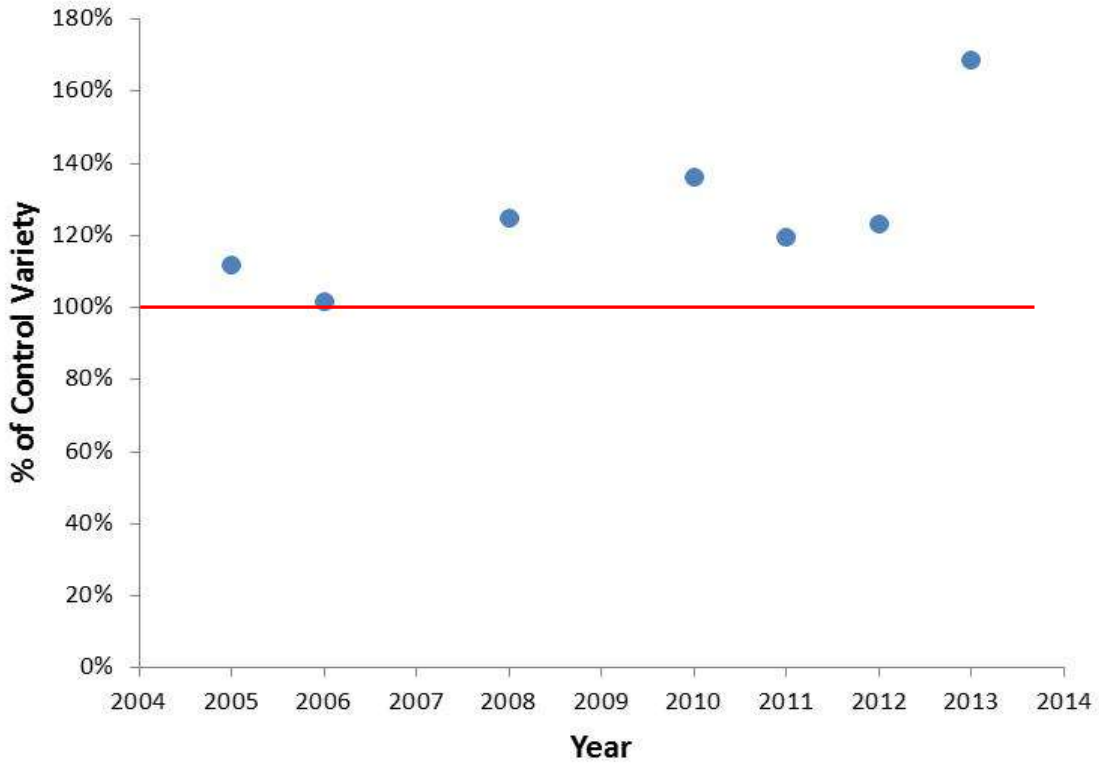
GRDC Grains Research & Development Corporation
Your GRDC working with you

Department of Environment and Primary Industries
State Government Victoria

Higher yields from long season types

> 7 t/ha



Height >2m

- Increase potential to lodge
- Harvesting difficulties

Plant growth regulators reduce height

- Financial and management costs
- Can leave chemical residues in the grain
- Effects can be unpredictable

Dwarfing genes have increased yield gains in other species

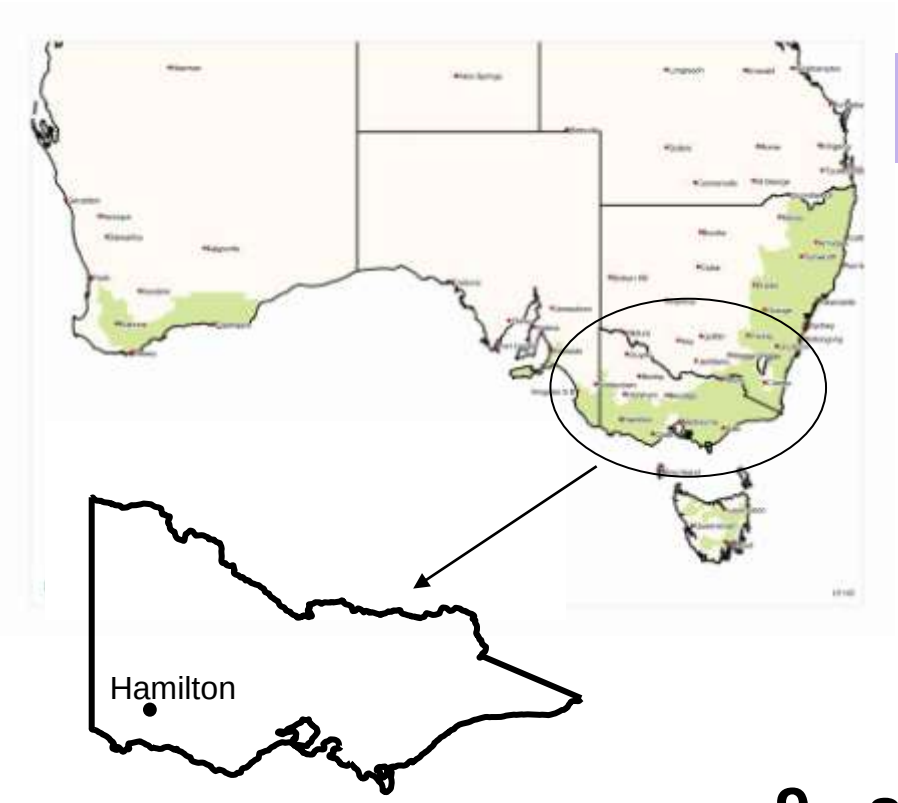
Semi-dwarf varieties commercially available in Europe

OBJECTIVE

Investigate the potential of semi dwarf varieties to reduce height without reducing grain yield in the HRZ

(improve partitioning into grain)

EXPERIMENTAL DETAILS



29 varieties evaluated

- 2012 - 14 varieties
- 2013 - 21 varieties

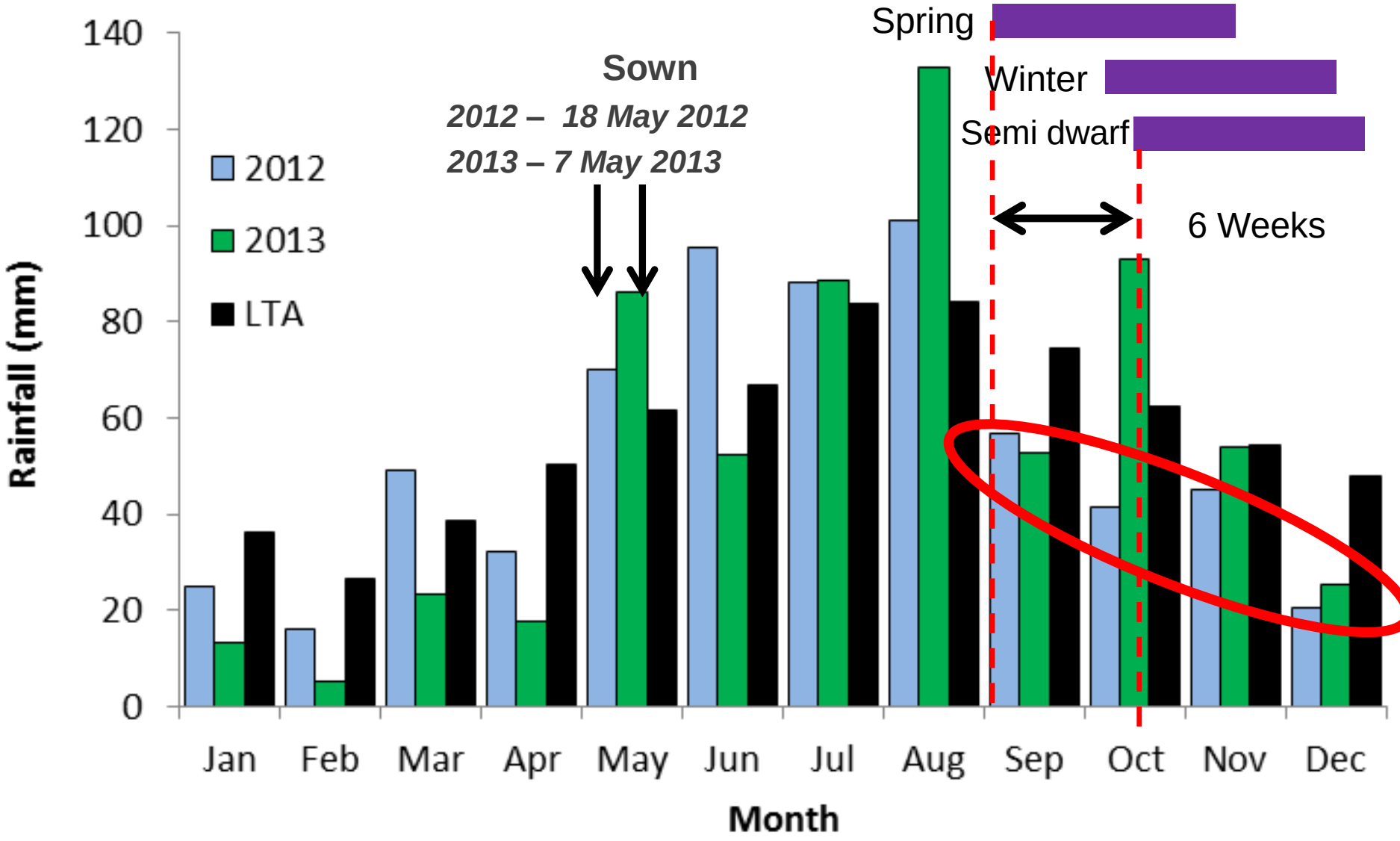
Location
Hamilton SW Victoria

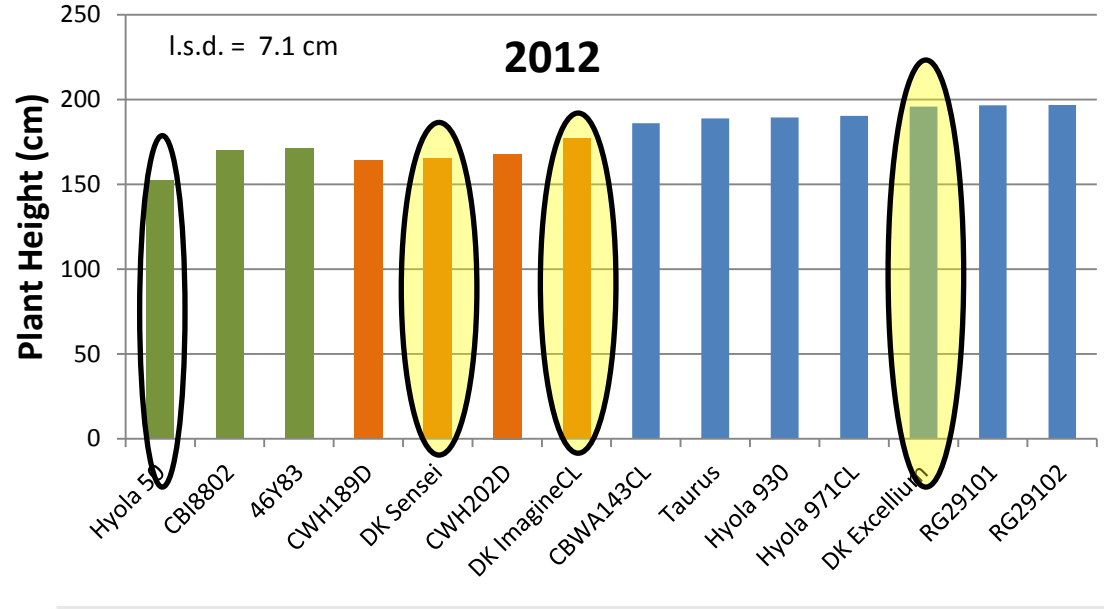
9 - semi dwarf (all winter)

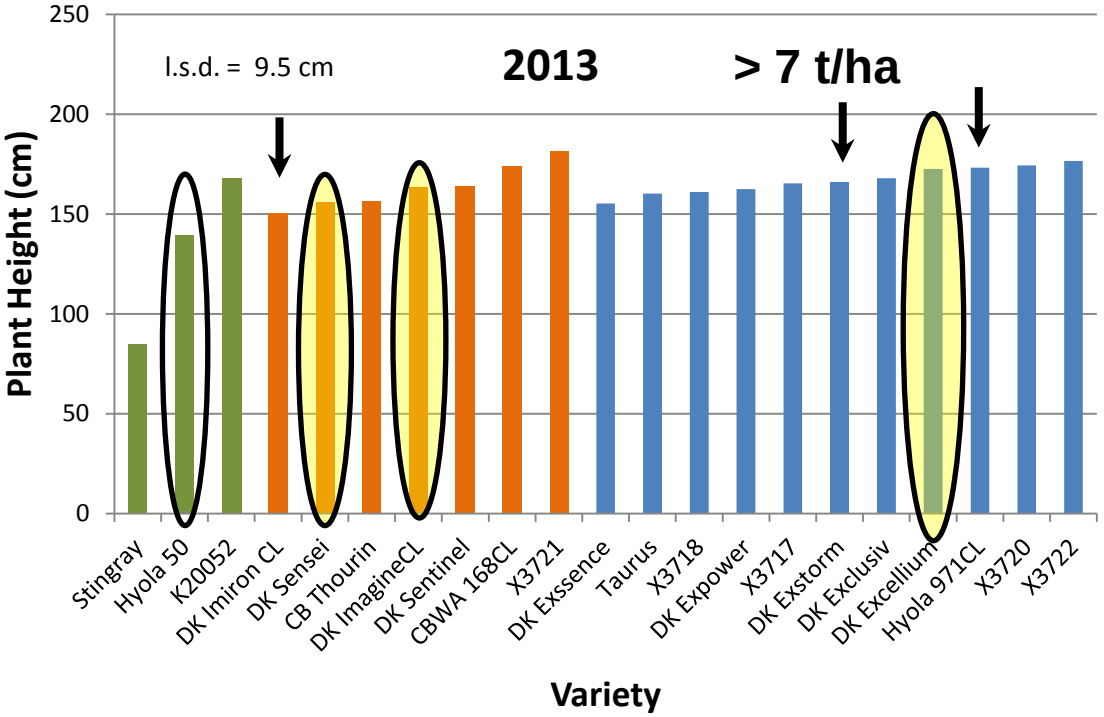
19 - standard height (winter & spring)

1 – short (TT)

Randomised block designs with 4 replicates


Spring
Winter
Semi dwarf
Sown
2012 – 18 May 2012
2013 – 7 May 2013
6 Weeks
2012
2013
LTA
Rainfall (mm)
140
120
100
80
60
40
20
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month





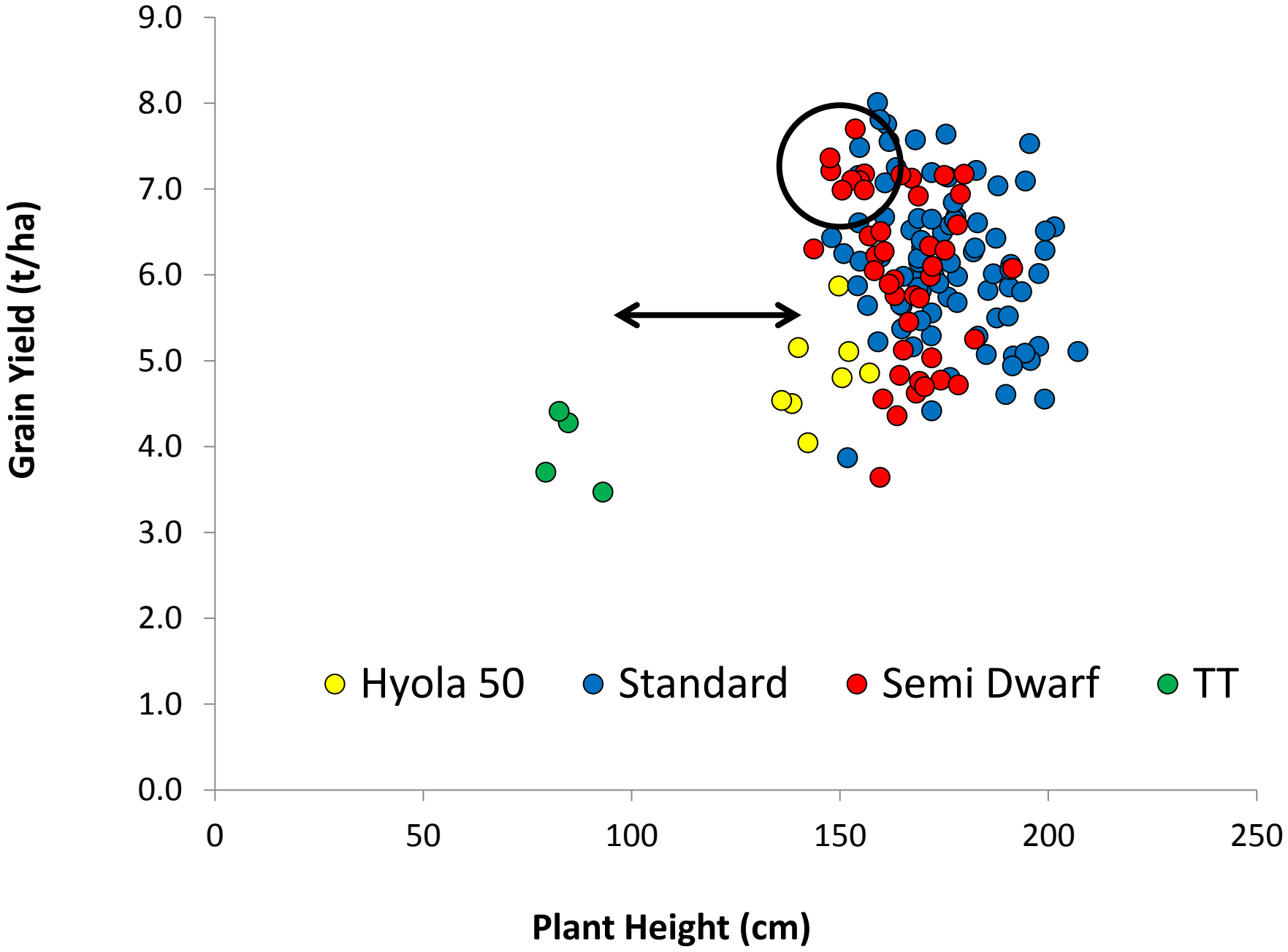
Spring

Winter Semi Dwarf

Winter Standard Height

Semi dwarf varieties

- taller than Hyola50 in both years
- not necessarily shorter than standard types
- Consistent ranking between years (20-30 cm shorter)
- Produced high yields in 2013


Grain Yield (t/ha)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0
50
100
150
200
250
Plant Height (cm)
Hyola 50
Standard
Semi Dwarf
TT

Conclusions

- **Shorter plants were able to maintain grain yield**
- 2013 - yields comparable to standard height varieties
- 2012 - yields comparable to Hyola50 (confounded by season)
- Plants < 150 cm tall need testing to determine the height at which yields are compromised
- Semi dwarf classification is not reliable
- However ranking was consistency between years

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