

Oilseed Production in Vermont



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NORTHWEST CROPS & SOILS PROGRAM <http://uvm.edu/nw/cropsoil/oilseeds>



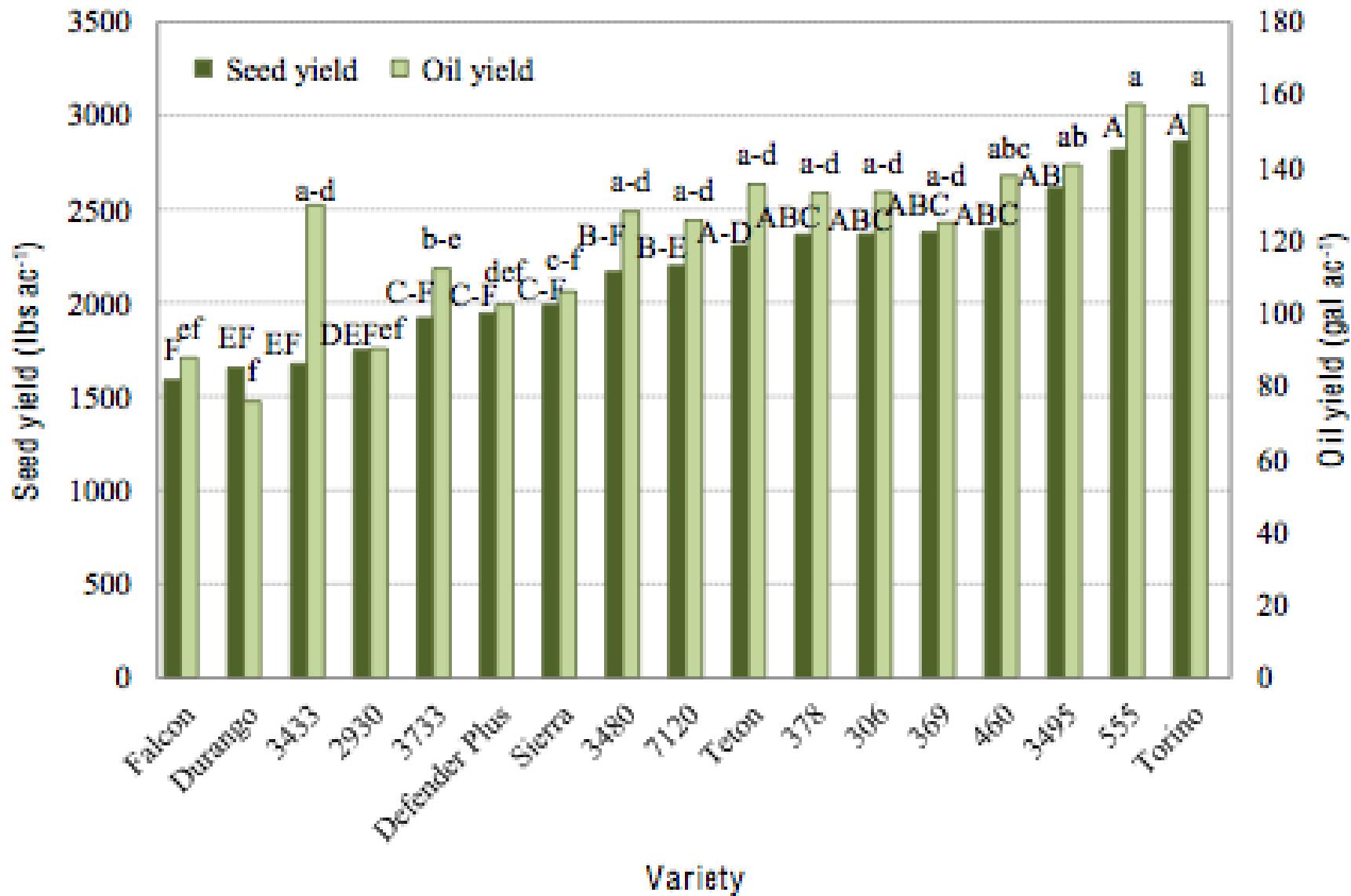


Figure 3. Seed and oil yields for seventeen sunflower varieties. Varieties with the same letter did not differ statistically ($p=0.10$, compare capital letters for seed yield and lower-case letters for oil yield).

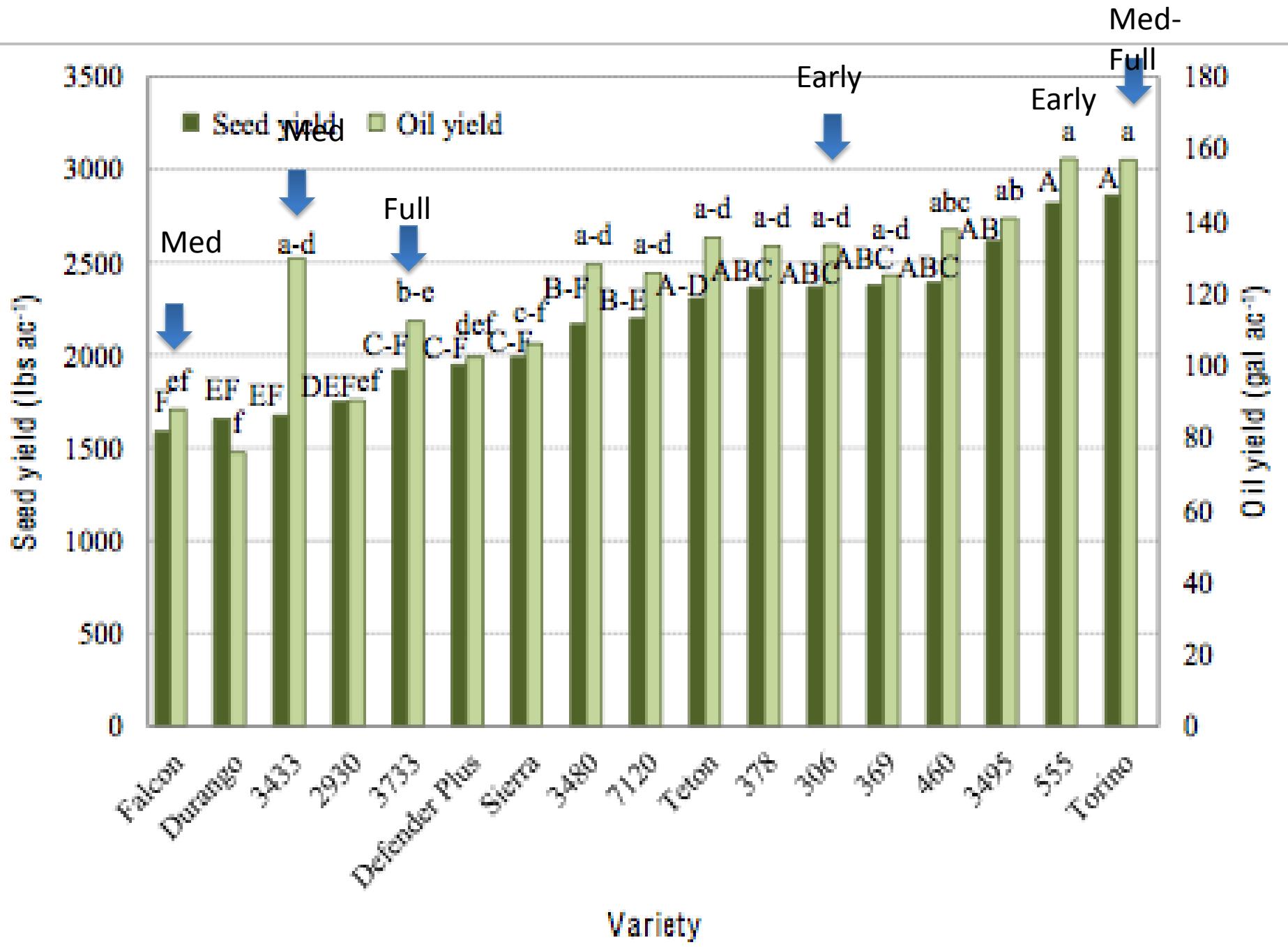
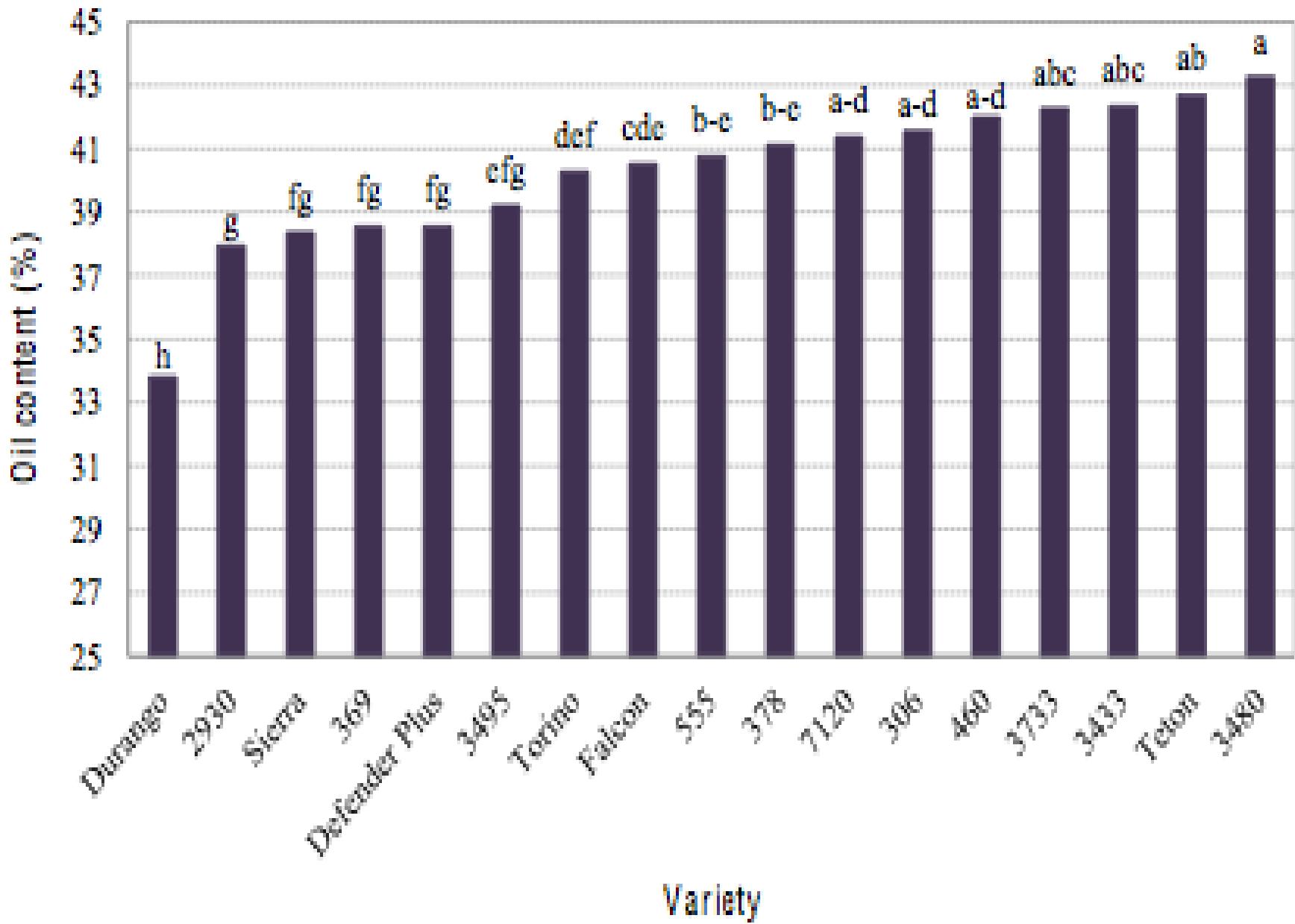
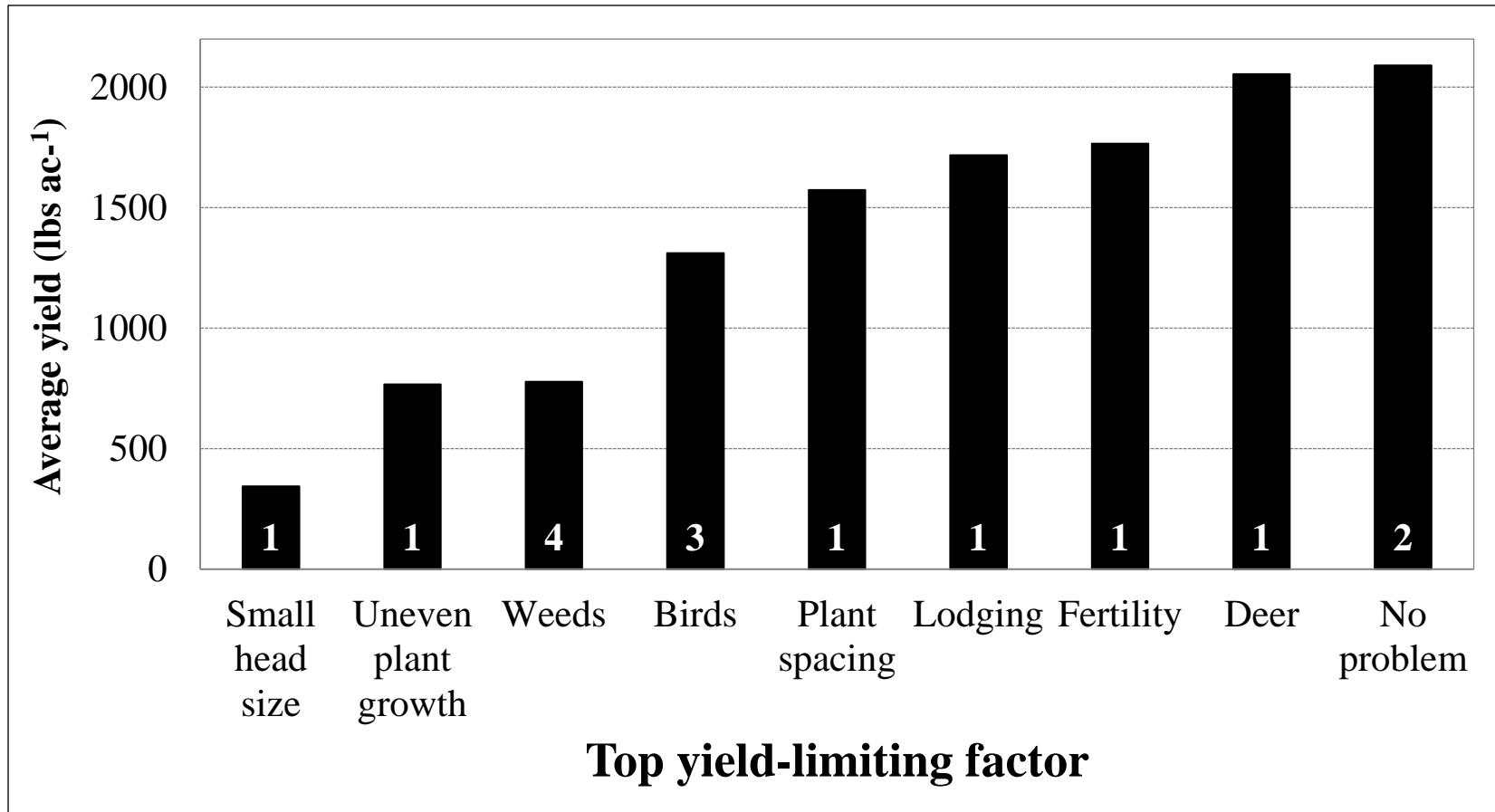


Figure 9. Seed and oil yields for various canola varieties. Varieties with the same letters did not differ.



Top Yield-Limiting Factors

VT Sunflower 2012



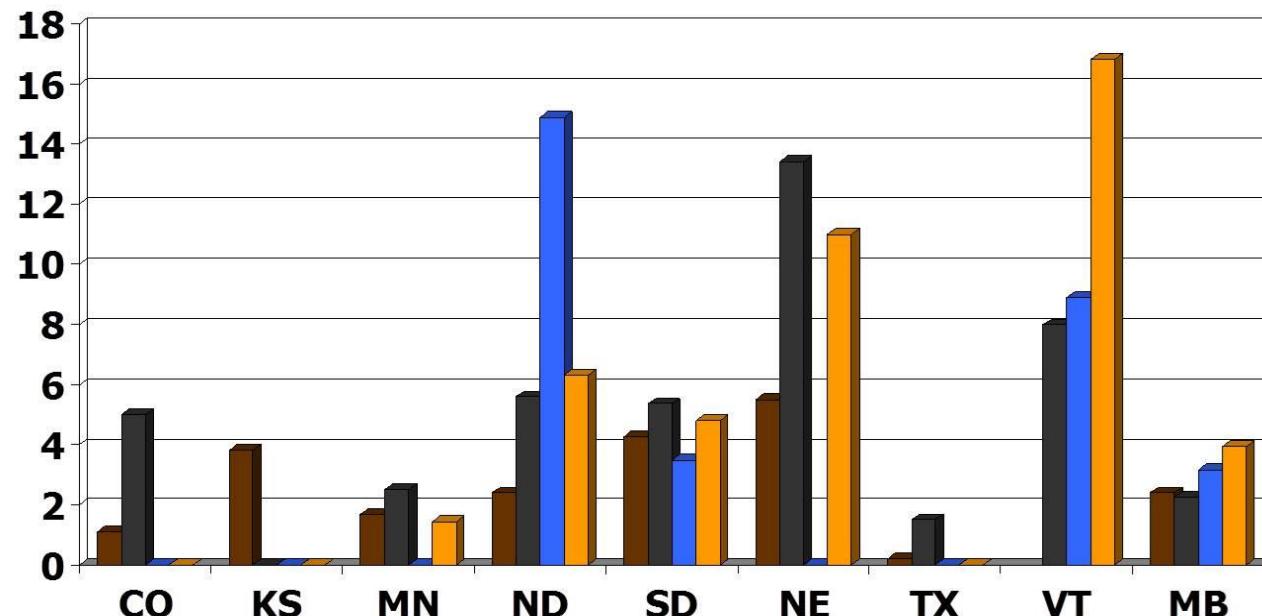
Average 2012 seed yield: 1296 lbs/acre
(oil yield ~ 68 gal/acre)

Sunflower Pest Management: Birds

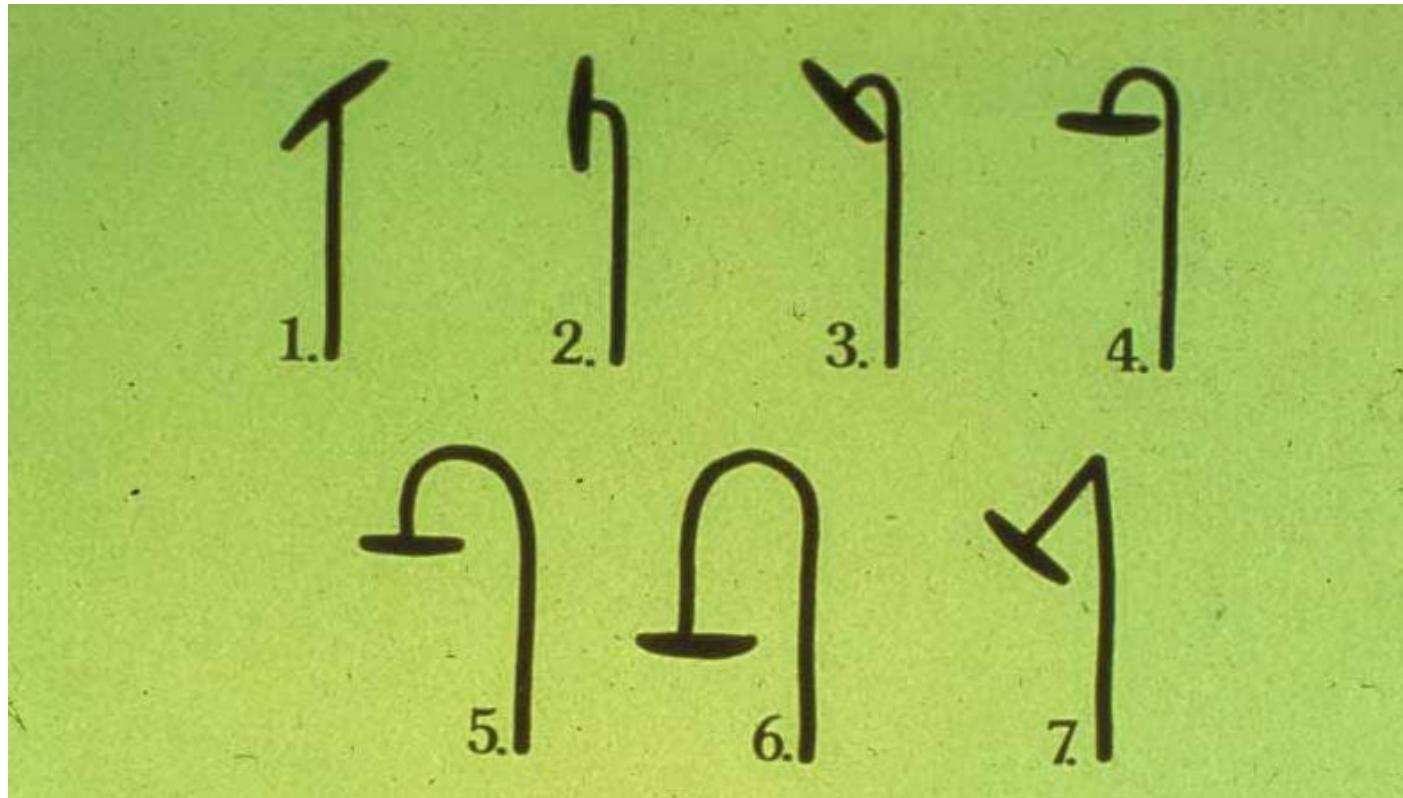


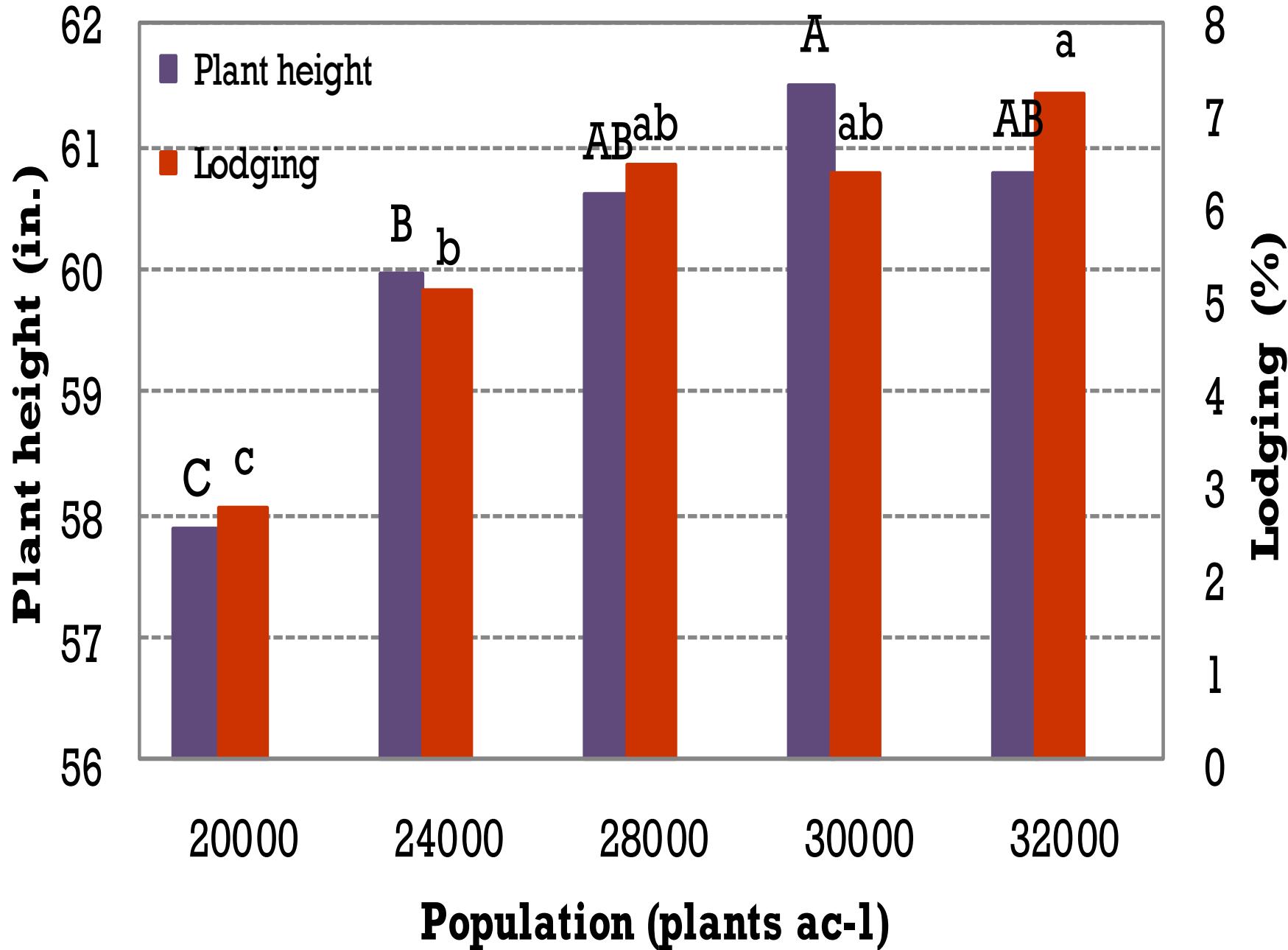
% Bird Damage in Fields Sunflower 2009-2012

■ 2009 ■ 2010 ■ 2011 ■ 2012

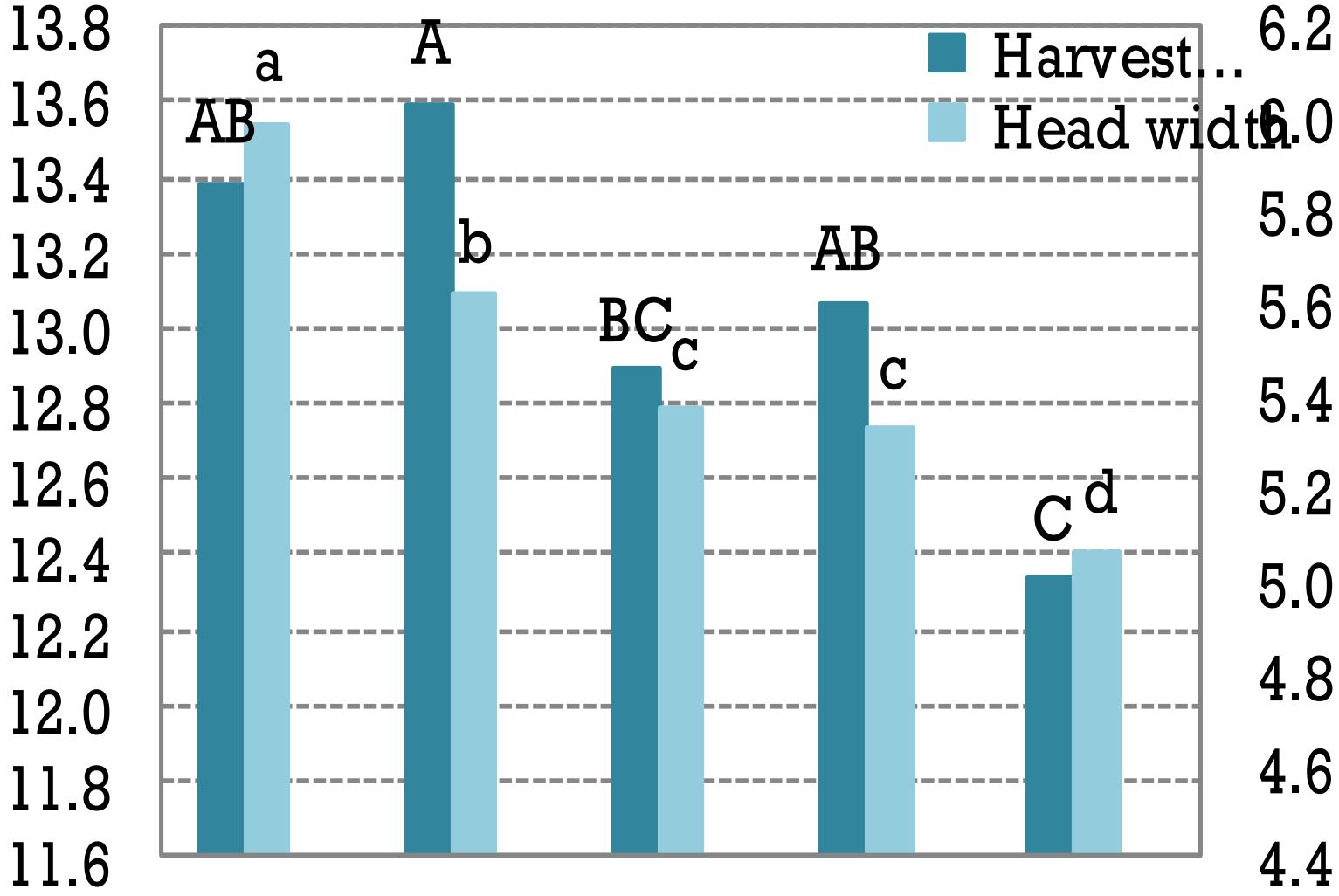


Stem Curvature Classes in Sunflower



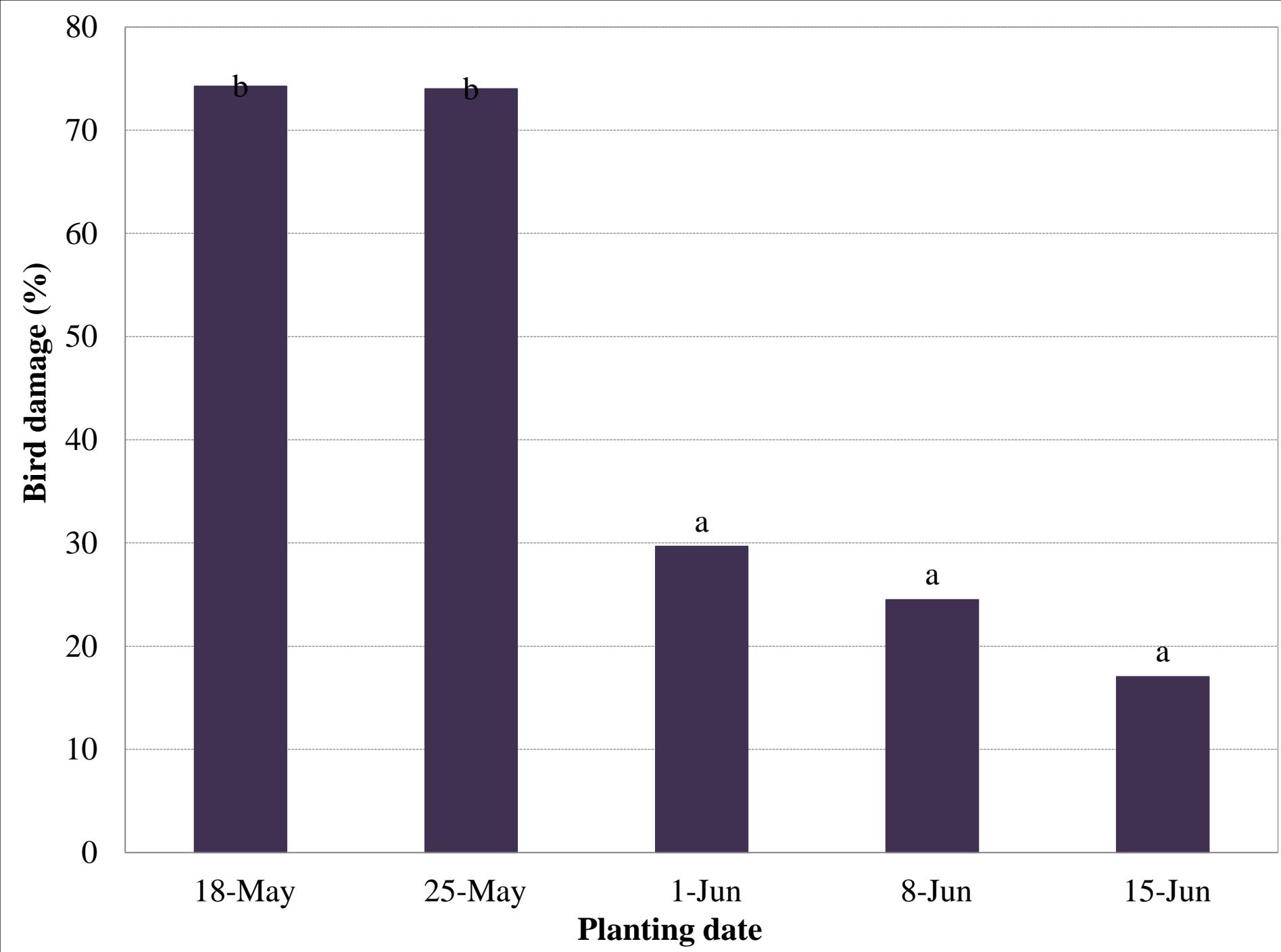


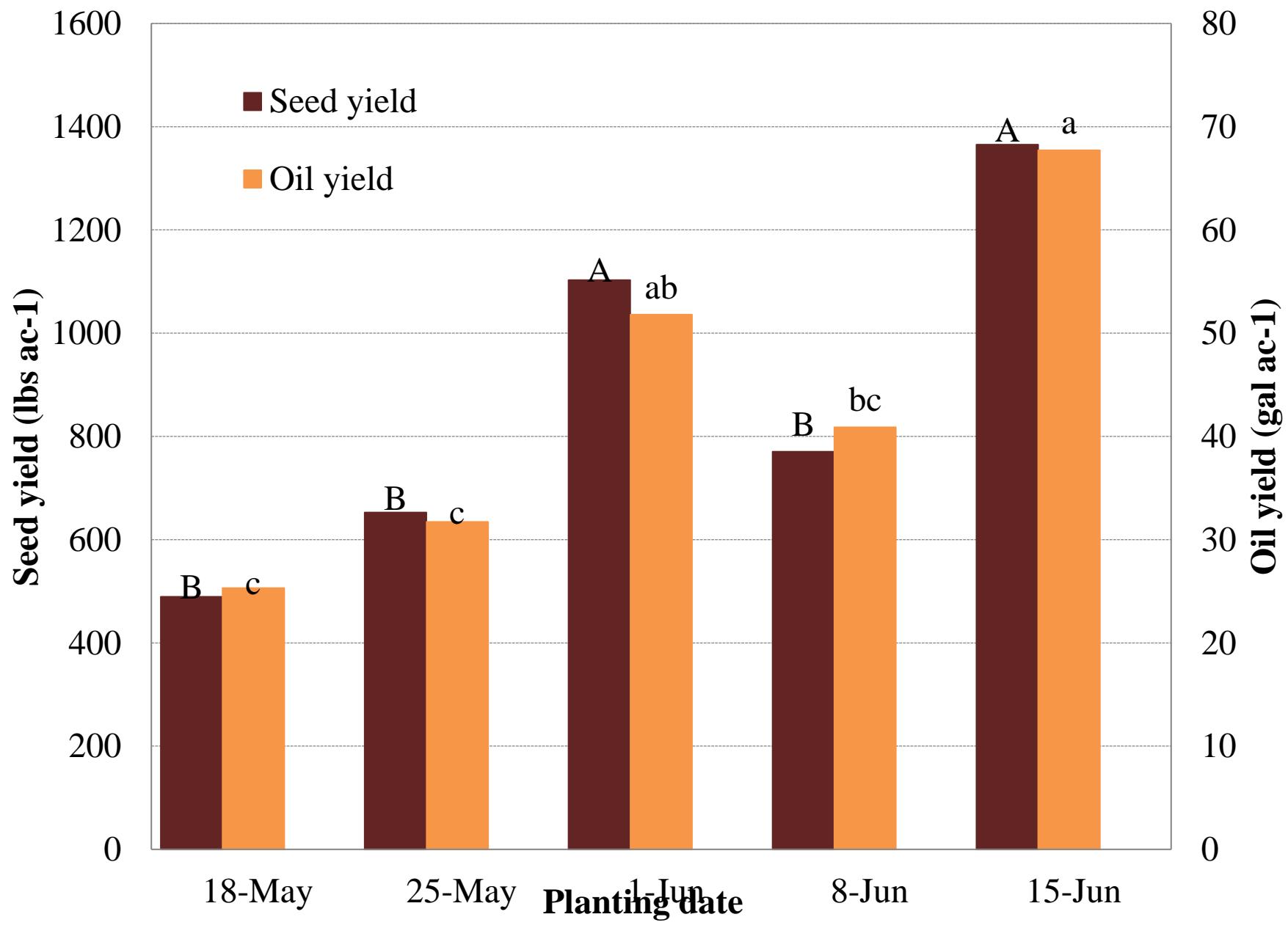
Harvest moisture (%)

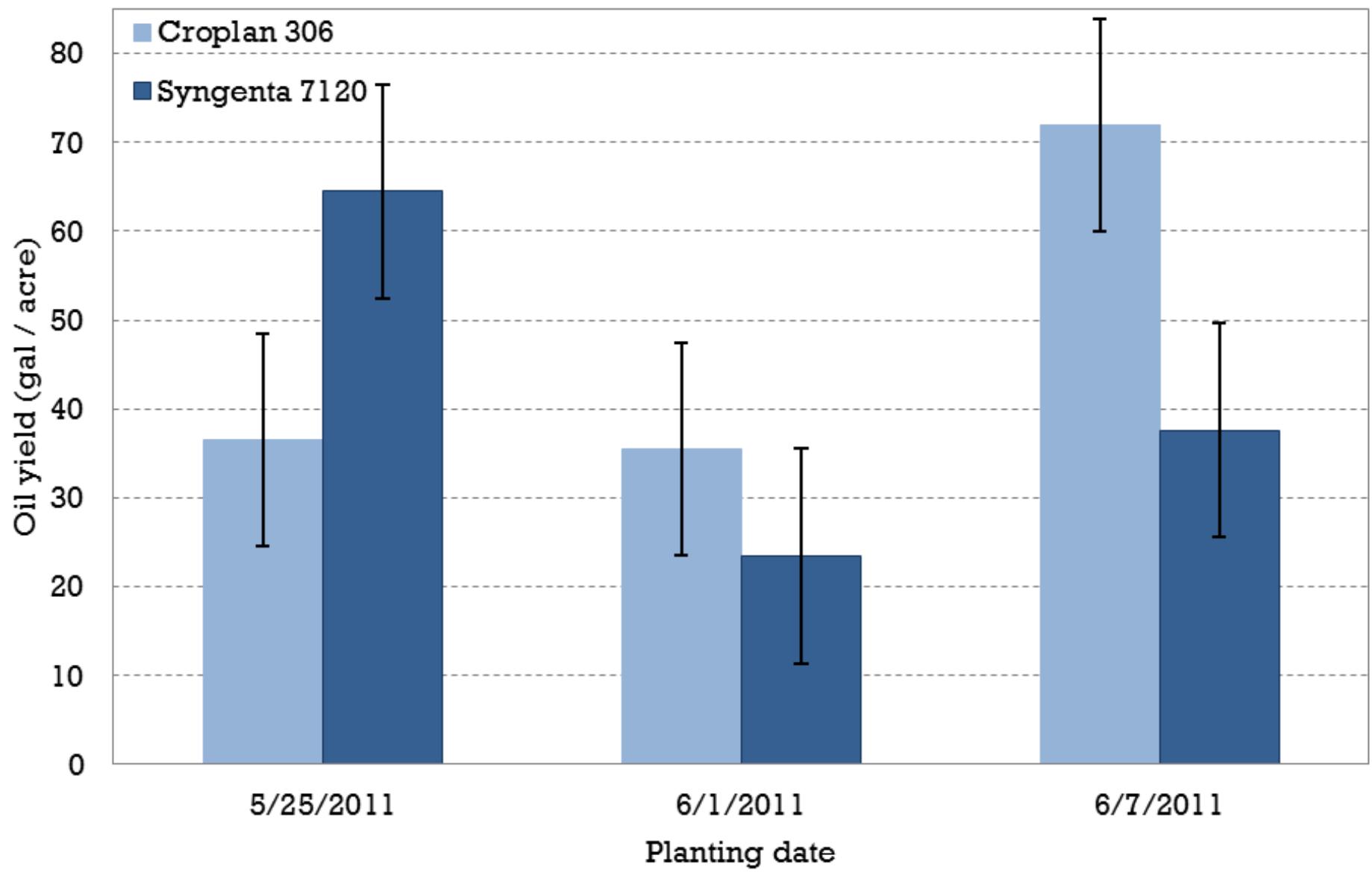


Population (plants ac^{-1})

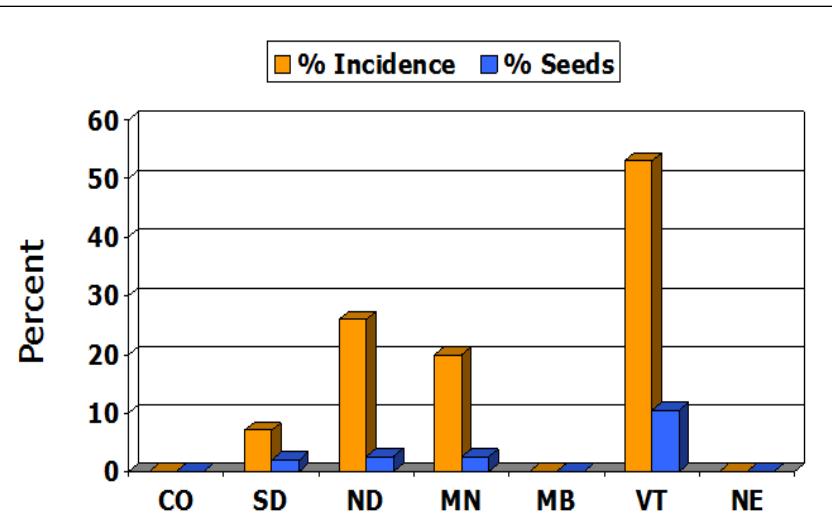
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Banded Sunflower Moth (BSM)

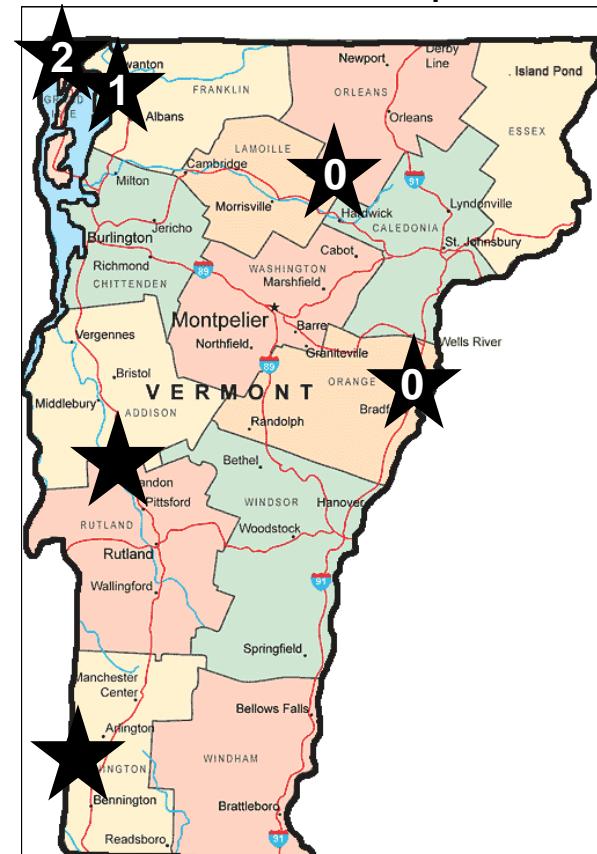


2012 BSM damage, compared to other regions.



Setting up a wing trap with pheromone lure, Newbury, VT.

2012 BSM traps



20-Aug

Sunflower Pest Management: Insects



Banded sunflower moth
Cochylis hospes



BSM larvae
burrowing



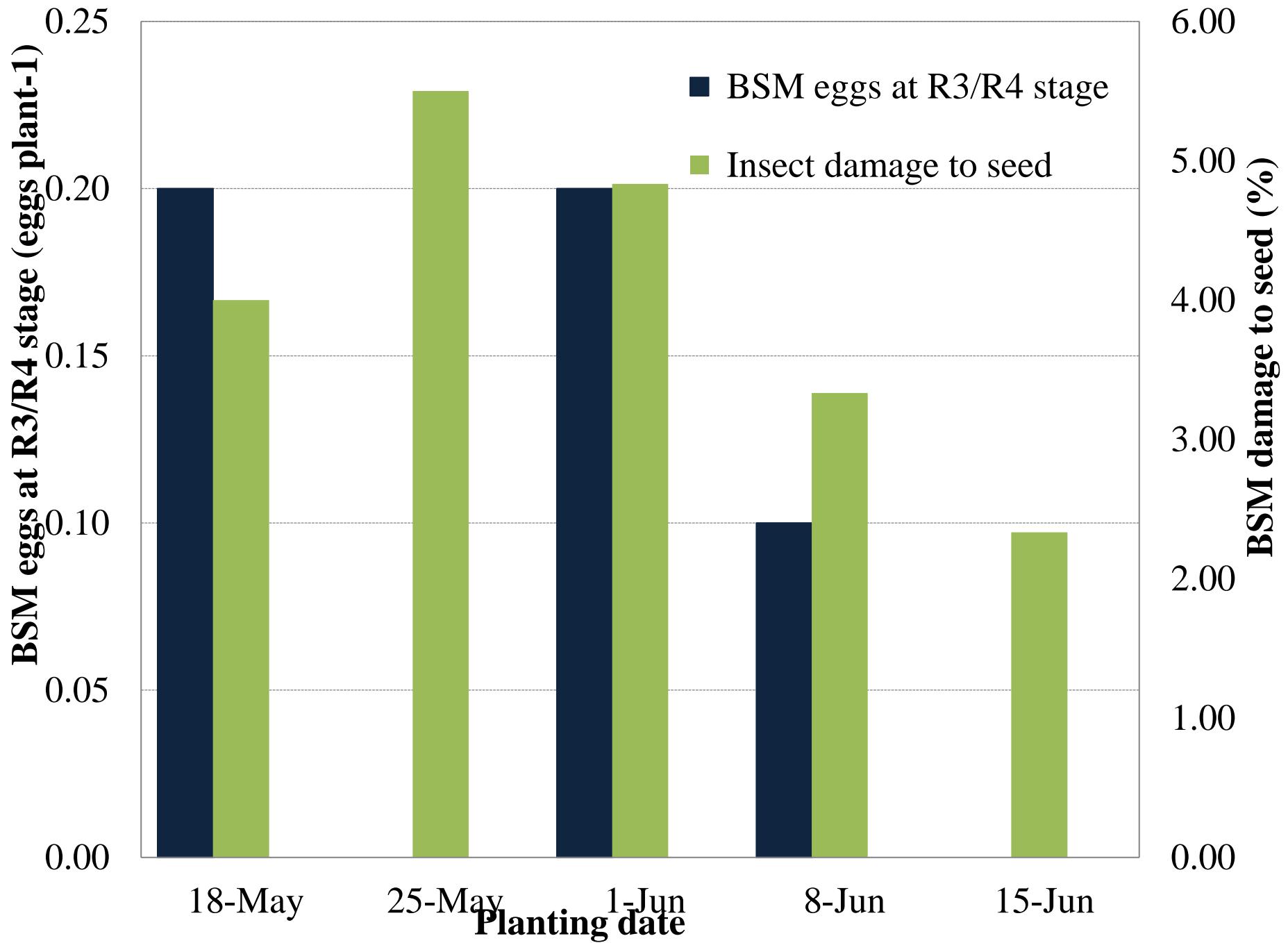
Sunflower midge damage

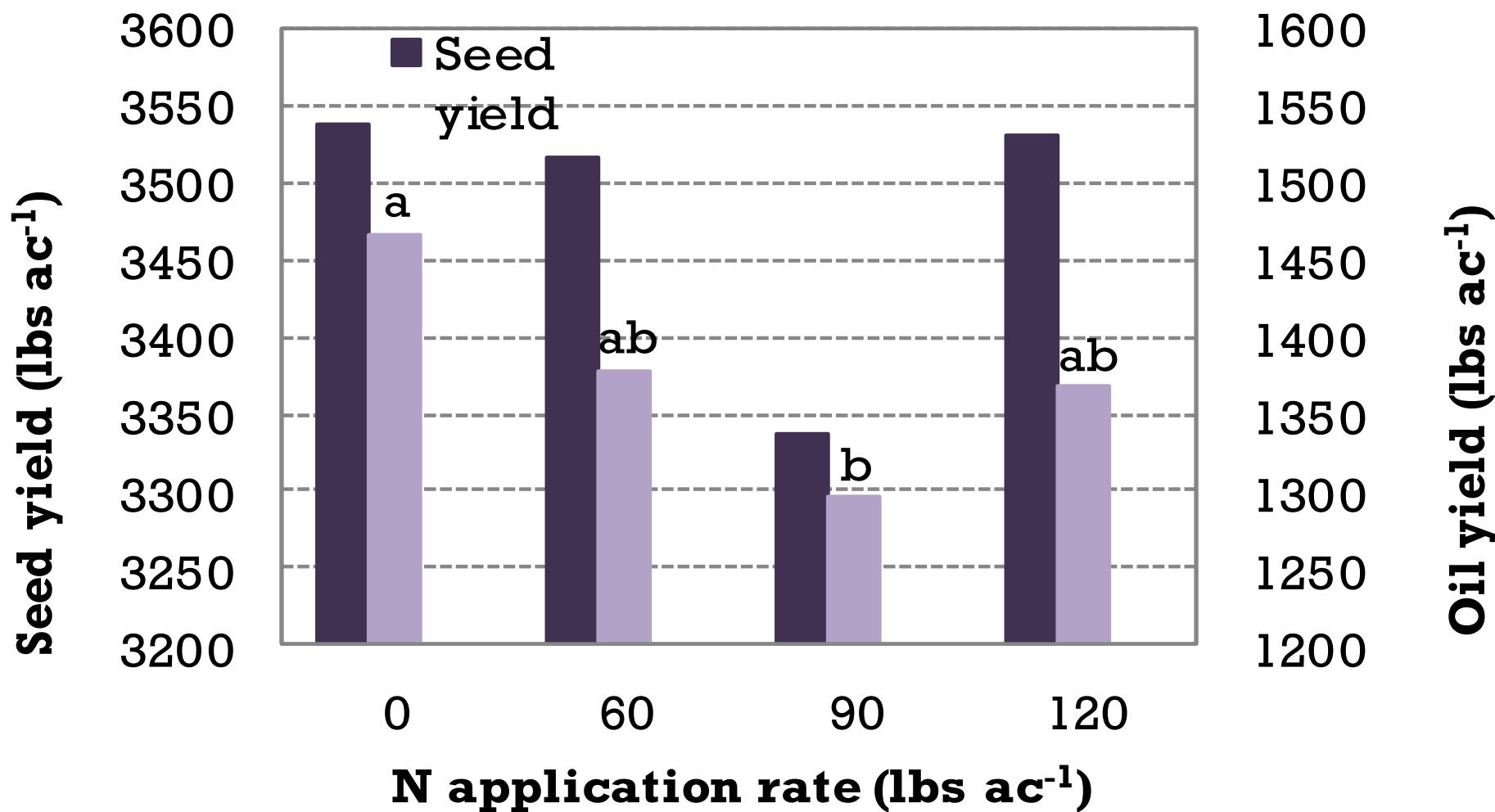


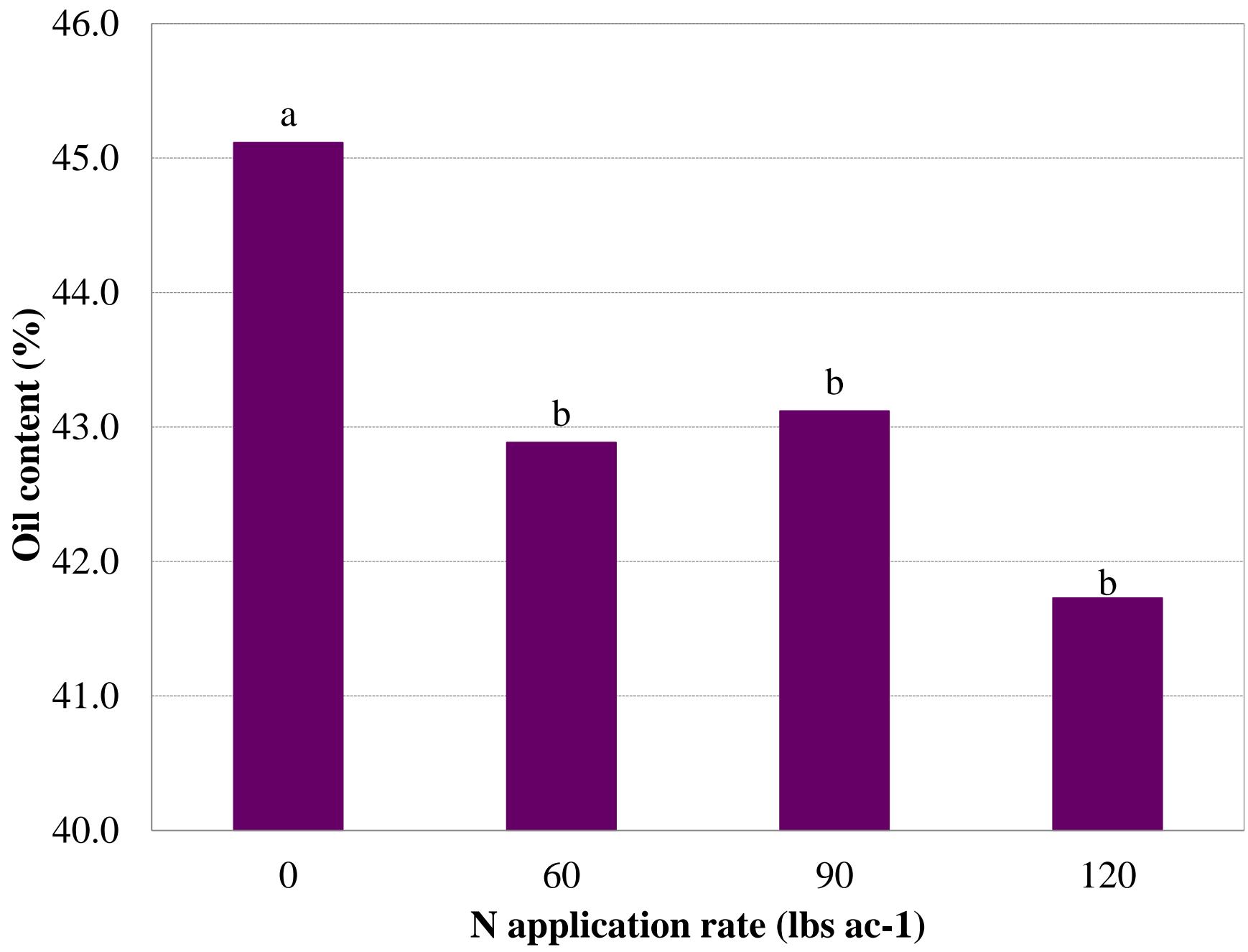
Sunflower maggot

- Scout regularly (different life cycle stages)
- Alter planting and/or harvesting dates to avoid vulnerable stages
- Deep fall plowing
- Crop rotation

Planting date	Growth stage on 16-Jul	BSM eggs at R3/R4 stage
		Eggs plant ⁻¹
1 - 18-May	R3/R4	0.20
2 - 25-May	R2/R3	0.00
3 - 1-Jun	R1/R2	0.20
4 - 8-Jun	R1	0.10
5 - 15-Jun	R1	0.00







Meal Nutrient Content

Nutrient content	Sunflower	Canola	Mustard
% N	5.60	4.60	6.00
%P	1.26	0.74	1.02
%K	1.49	0.68	1.02

Other Meal Benefits

Biocidal properties

- Some oilseed crops have high glucosinolate values
- These glucosinolates hydrolyze into isothiocyanates
- Various mustards have high glucosinolates
- Suppress diseases and nematodes



Weed Control with Oilseed Meals

Table 3. Weed counts in oilseed amended plots in 2008 and 2009.

Amendment	2009
	Weed count
Sunflower meal	33b
Canola meal	38b
Mustard meal	15a
Control (synthetic N)	52c

**Within each column, numbers followed by the same letter are not significantly different ($P<0.05$).

Organic Nitrogen Source

Impact of oilseed meal amendments on soil nitrate levels at 4, and 8 weeks after planting.

Amendment	4 week NO ₃ (ppm)	8 week NO ₃ (ppm)
Sunflower meal	41.2a	28.6b
Canola meal	49.7a	37.5a
Mustard meal	53.1a	38.5a
Control (synthetic N)	17.8b	9.38c

**Within each column, numbers followed by the same letter are not significantly different (P<0.05).

Winter Canola Yields

