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# ***Brassica carinata***

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Canada 



# Brassica carinata seeding rates

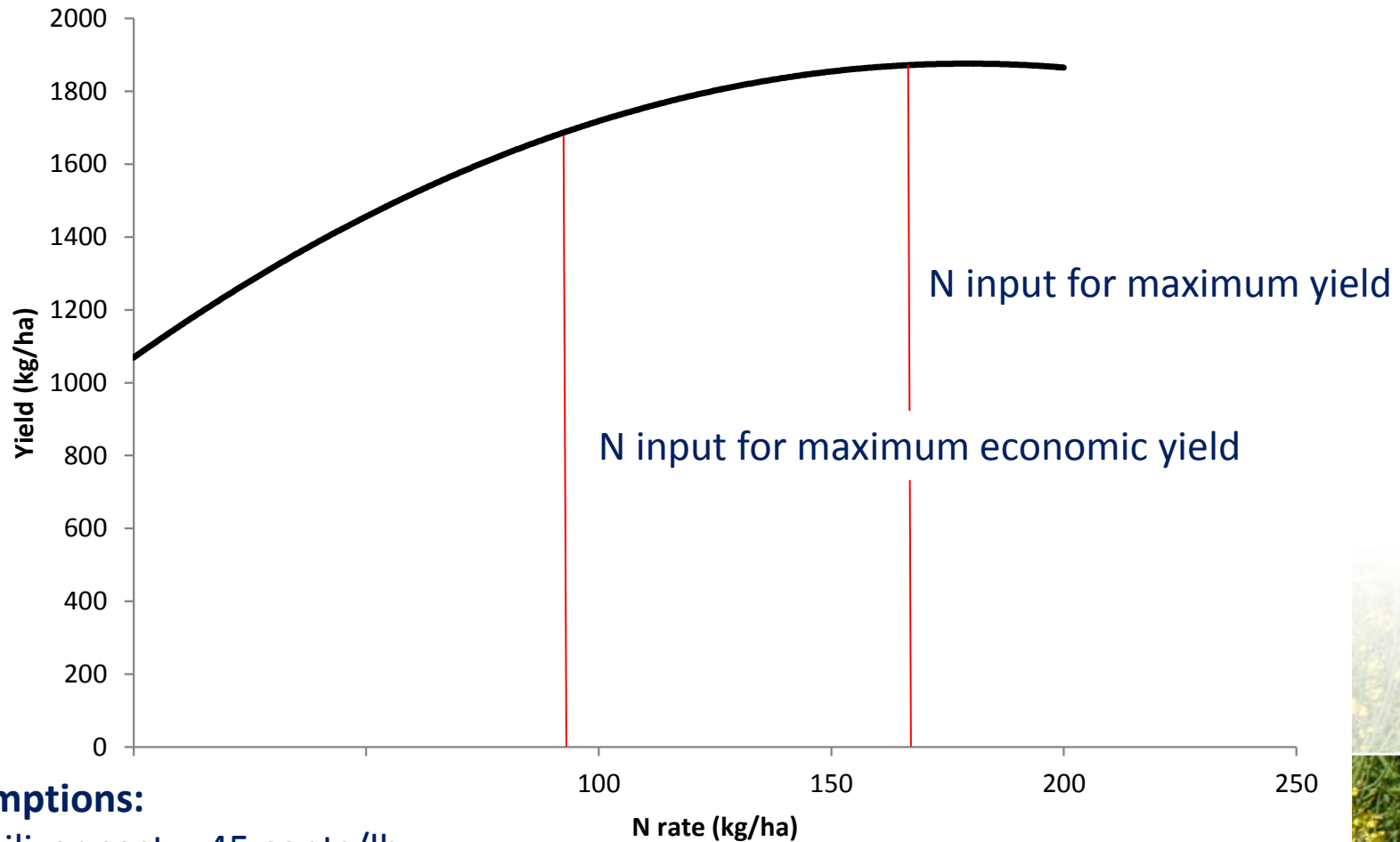
	Seed rate	Carinata
Seeds m <sup>-2</sup>	kg ha <sup>-1</sup>	Seed Yld kg ha <sup>-1</sup>
25	1.2	1100
50	2.3	1504
100	4.7	1796
200	9.3	1891
400	18.6	2009
800	37.2	2086

Yields increase at higher seeding rates but net returns maximized at these rates



# *Brassica carinata* N response

(Adapted from Johnson et al. 2014. CJPS and unpublished data)

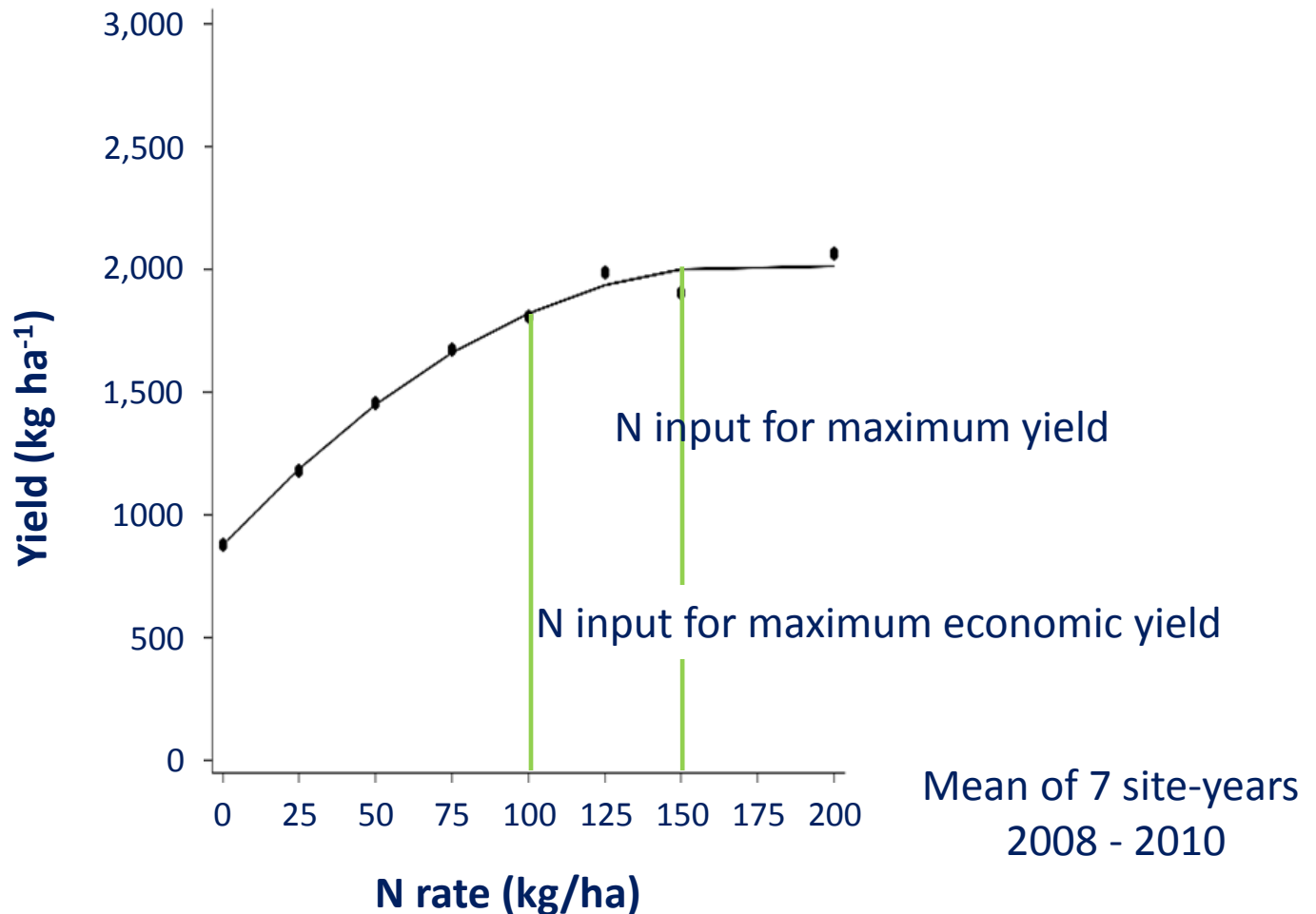


## Assumptions:

N fertilizer cost = 45 cents/lb

Camelina Price = \$ 9.50 / bushel

# N Response in Camelina



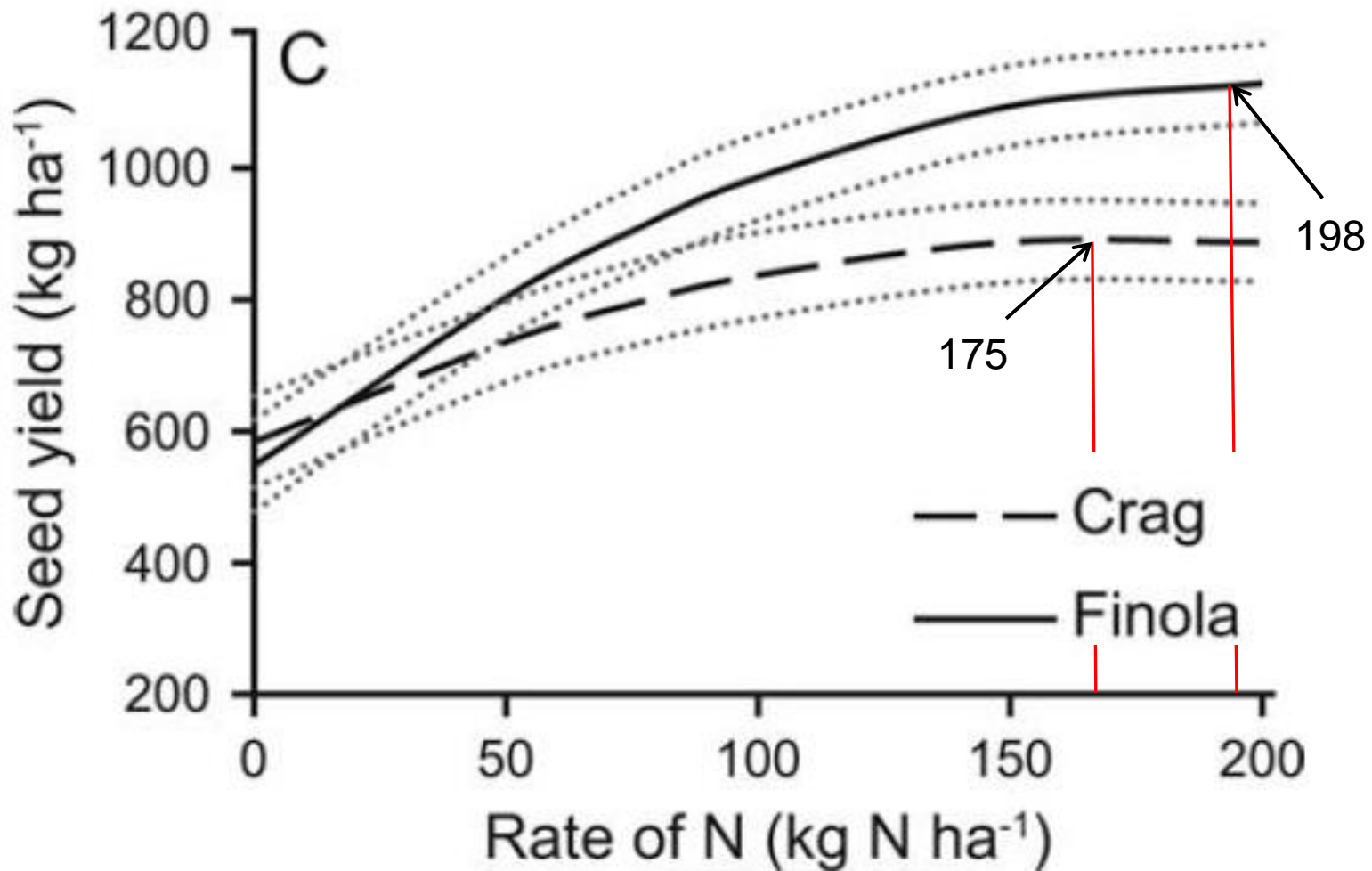
## Assumptions:

N fertilizer cost = 45 cents/lb

Camelina Price = 18 cents/lb or \$ 9.00 / bushel

# Hemp Response to N.

Vera et al. CJPS 2004.





# “The Old”

- Trifluralin registered in “mustards”.  
Fortress, a combination of granule of triallate and trifluralin also registered in mustards.
- Ethafluralin has completed PMRA Re-review and may be eligible for new registrations, eg. for *Brassica carinata*



# Assure / Muster in *B. carinata*

- Assure (quizalifop) and Muster Toss-N-Go (ethametsulfuron) are registered in *carinata*.
- 2012 data raised some concerns about tank-mix and crop injury (was it due to adjuvant, timing?)
- Additional studies conducted in 2013
  - Scott, Stewart Valley



# Assure / Muster tank-mix studies

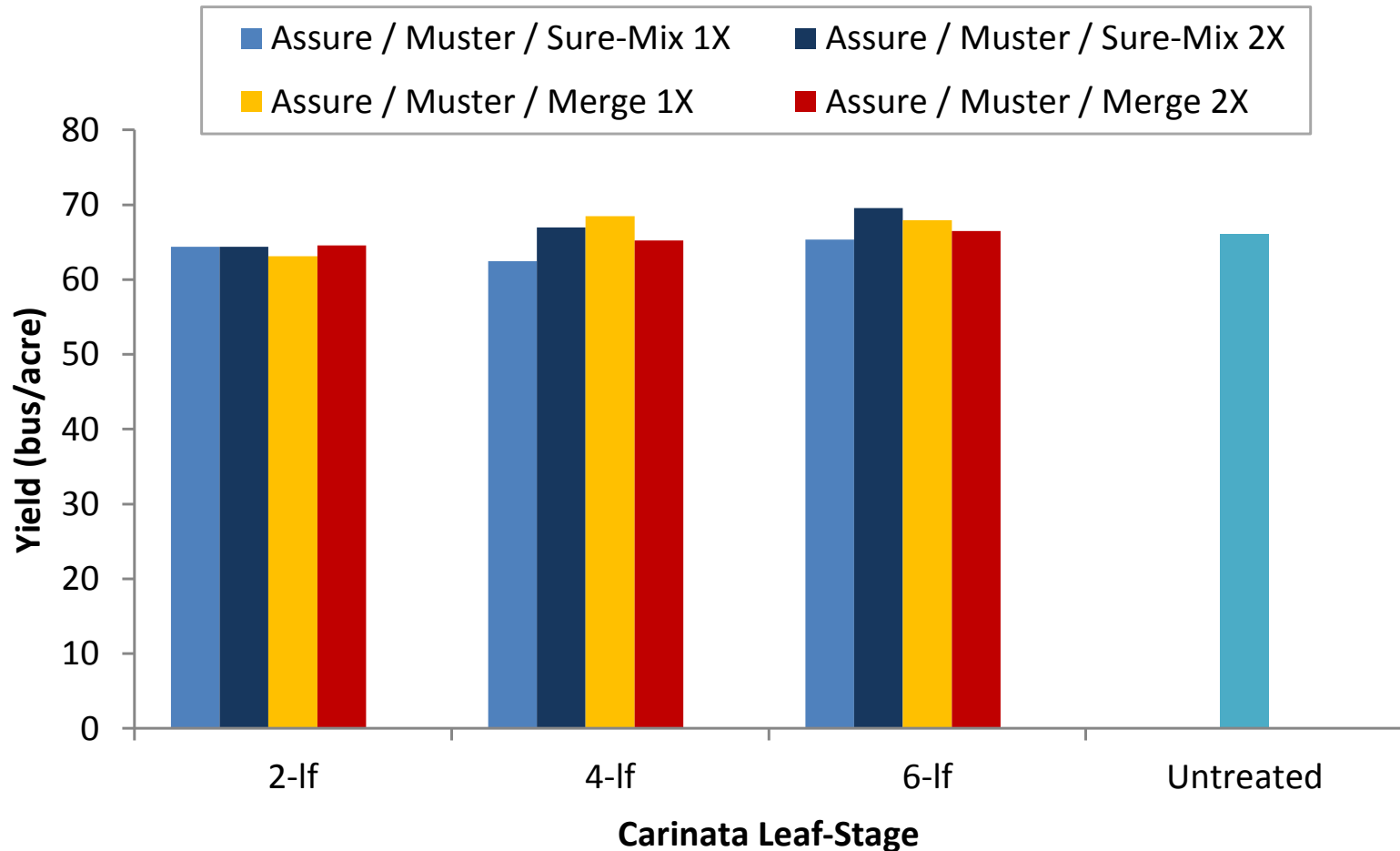
- Applied 1 and 2X rates of Assure and Muster tank-mix either with Sure-Mix or Merge adjuvant at 2, 4 and 6-leaf stage of carinata.
- Also, had a weed-free check for comparison.





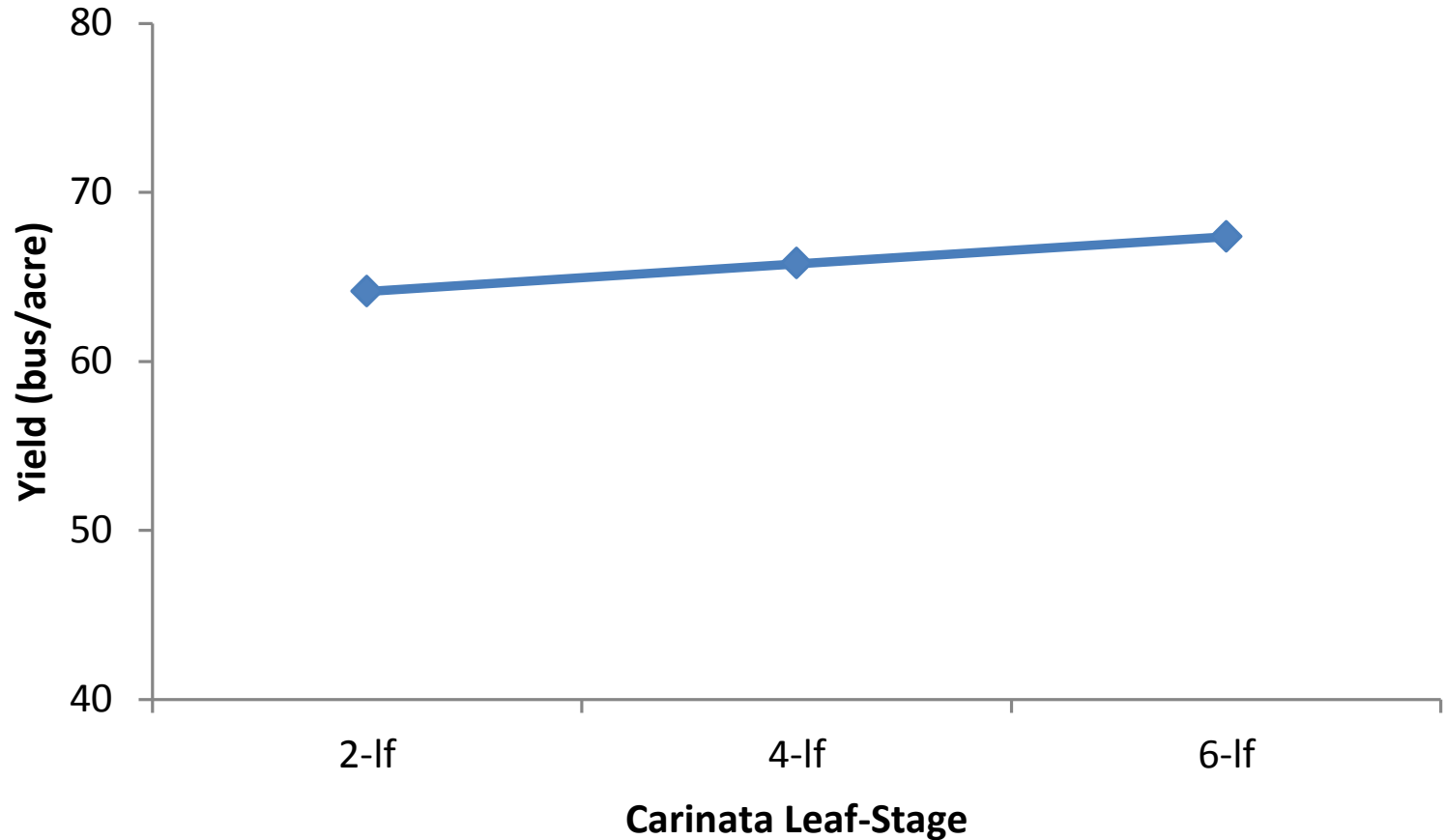
# Assure / Muster tank-mix in carinata – Scott, 2013

## Seed Yield



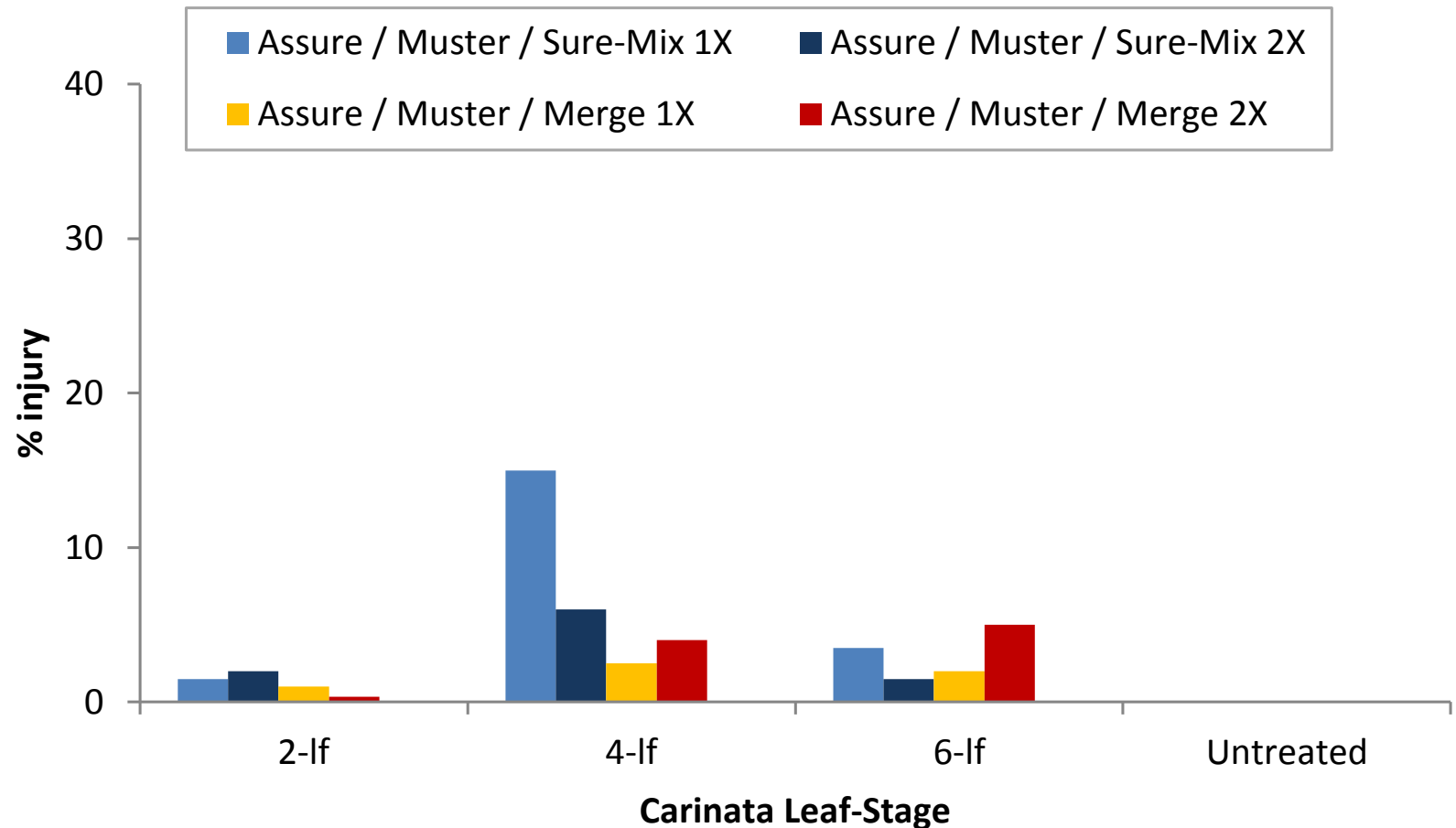
# Assure / Muster tank-mix in carinata – Scott, 2013

## Seed Yield



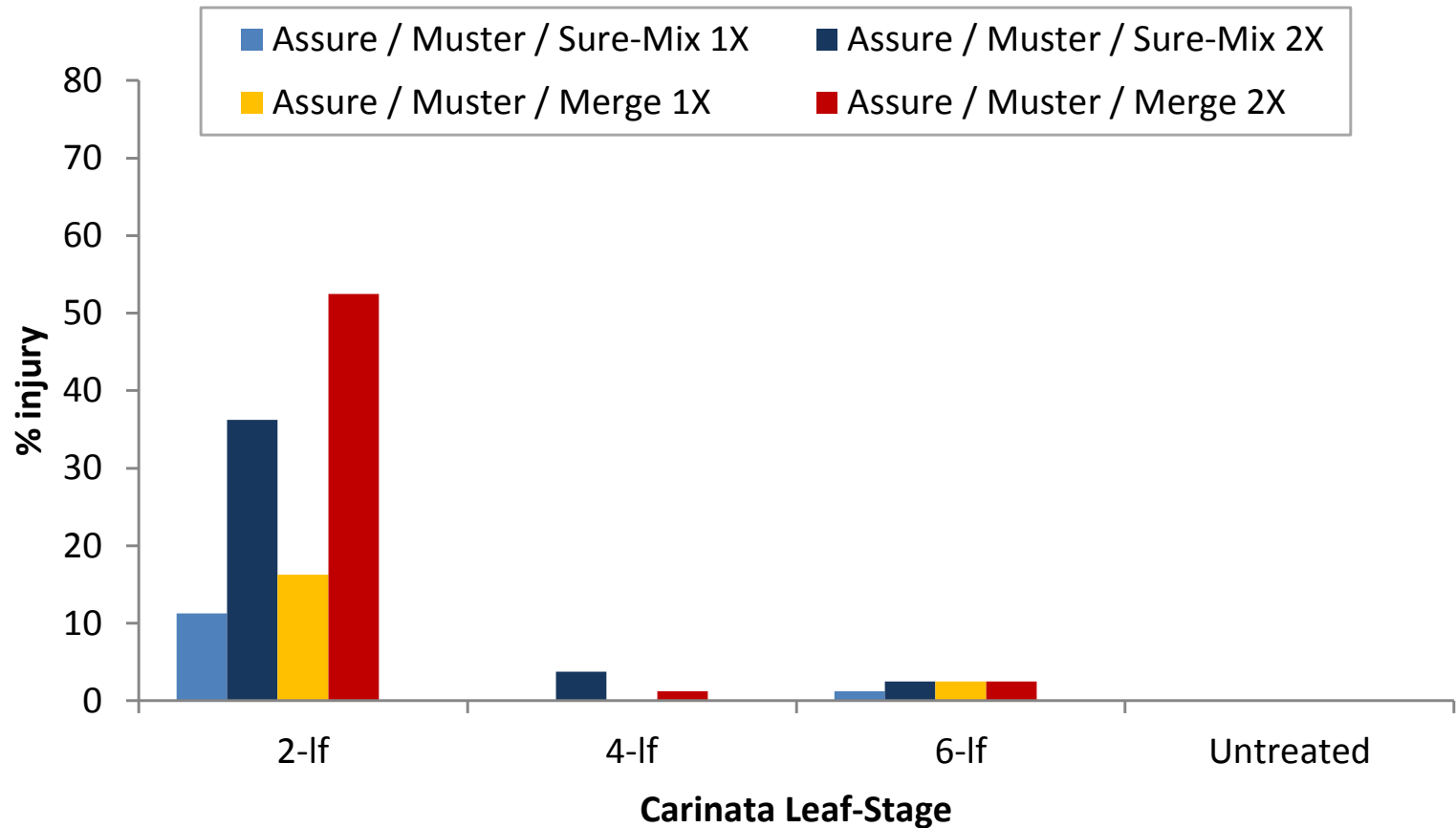
# Assure / Muster tank-mix in carinata – Scott, 2013

## Visual Injury ratings

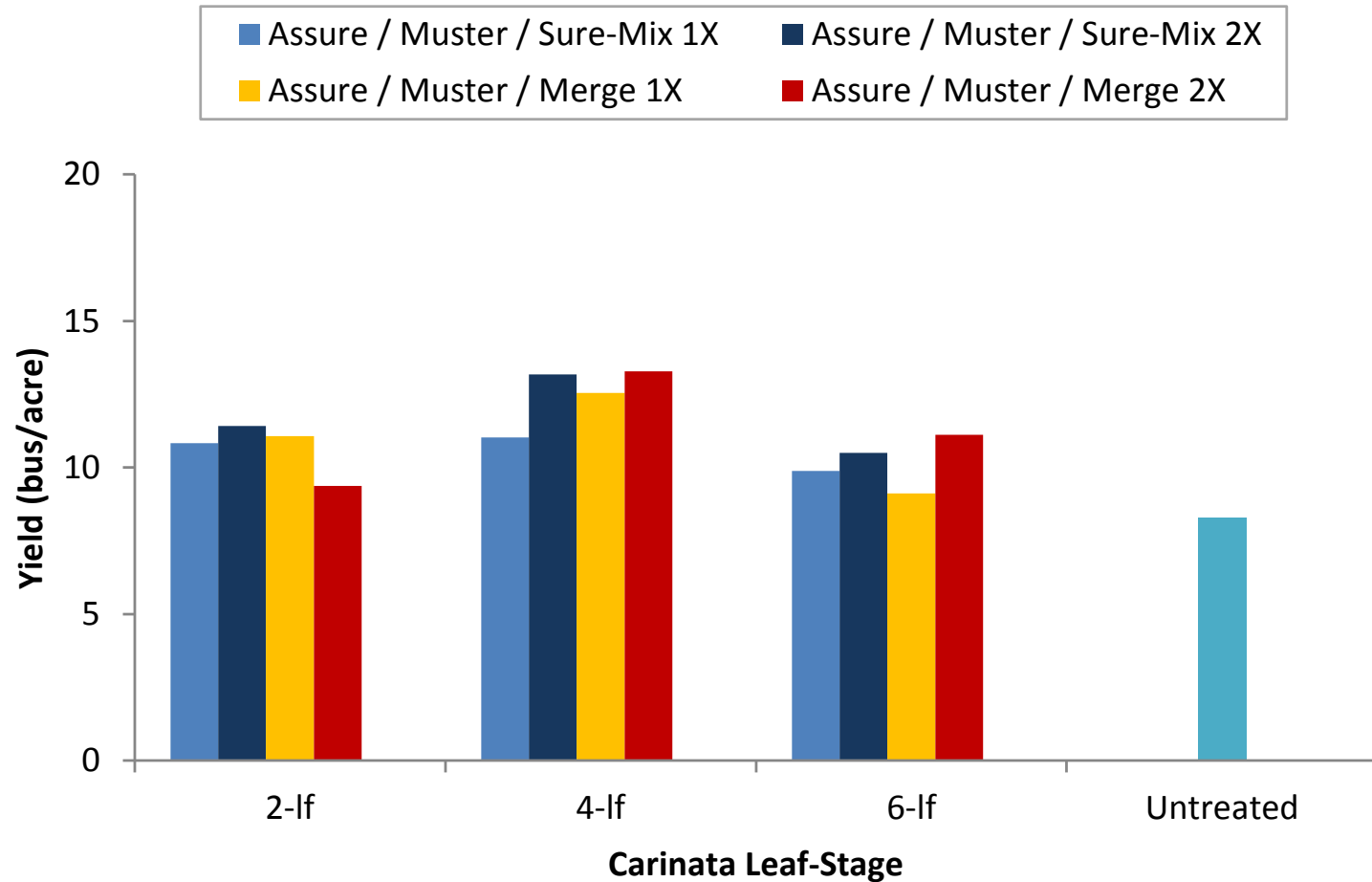




# Assure / Muster tank-mix in carinata Stewart Valley, 2013 Visual Injury ratings



# Assure / Muster tank-mix in carinata Stewart Valley, Seed Yield



# Authority in Mustards

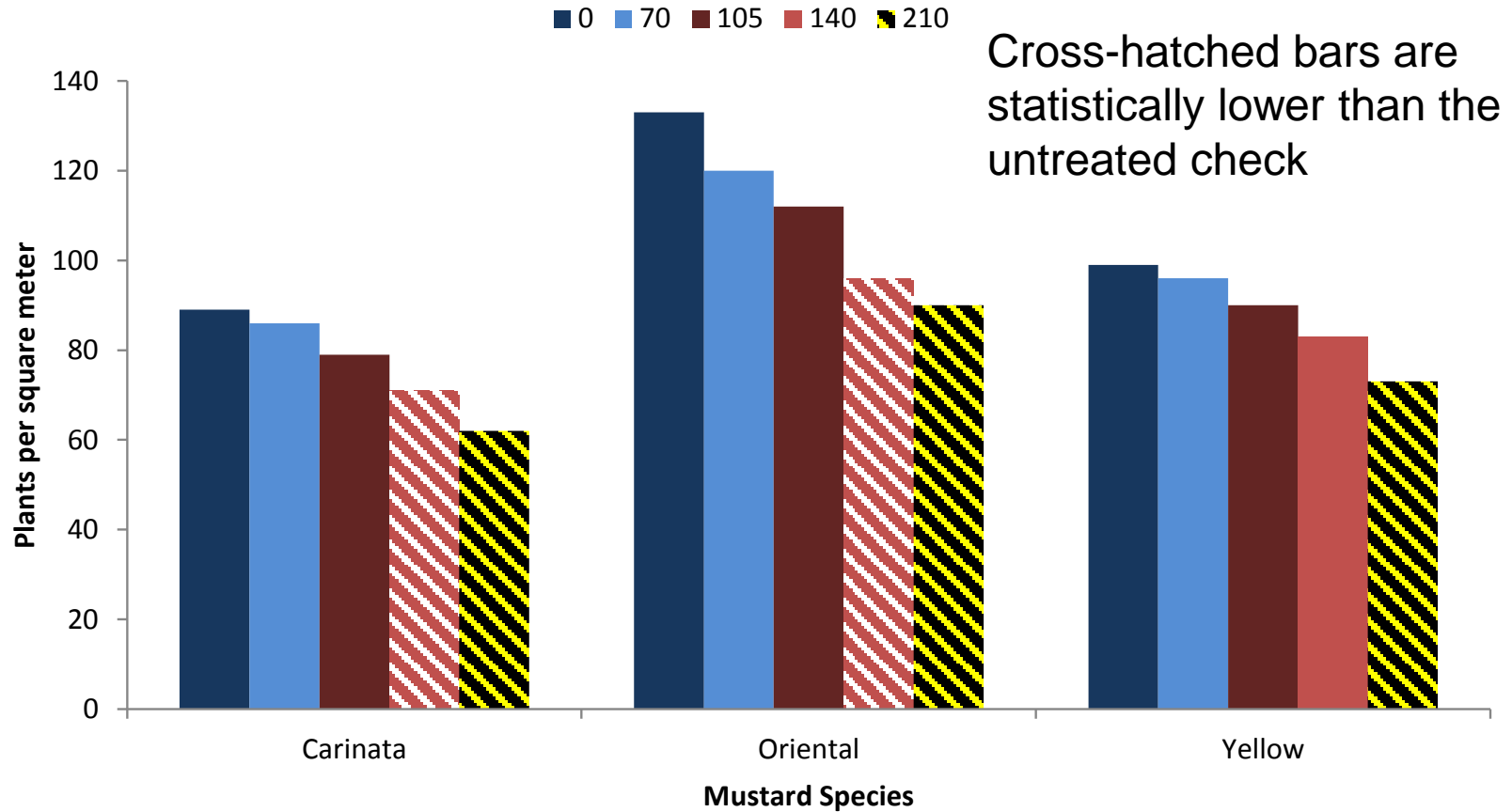
- Registration has been submitted
- Registration will be for 43 acre / jug rate only (105 g ai/ha rate)
- Have seen injury when soils get saturated
- Lower rate?





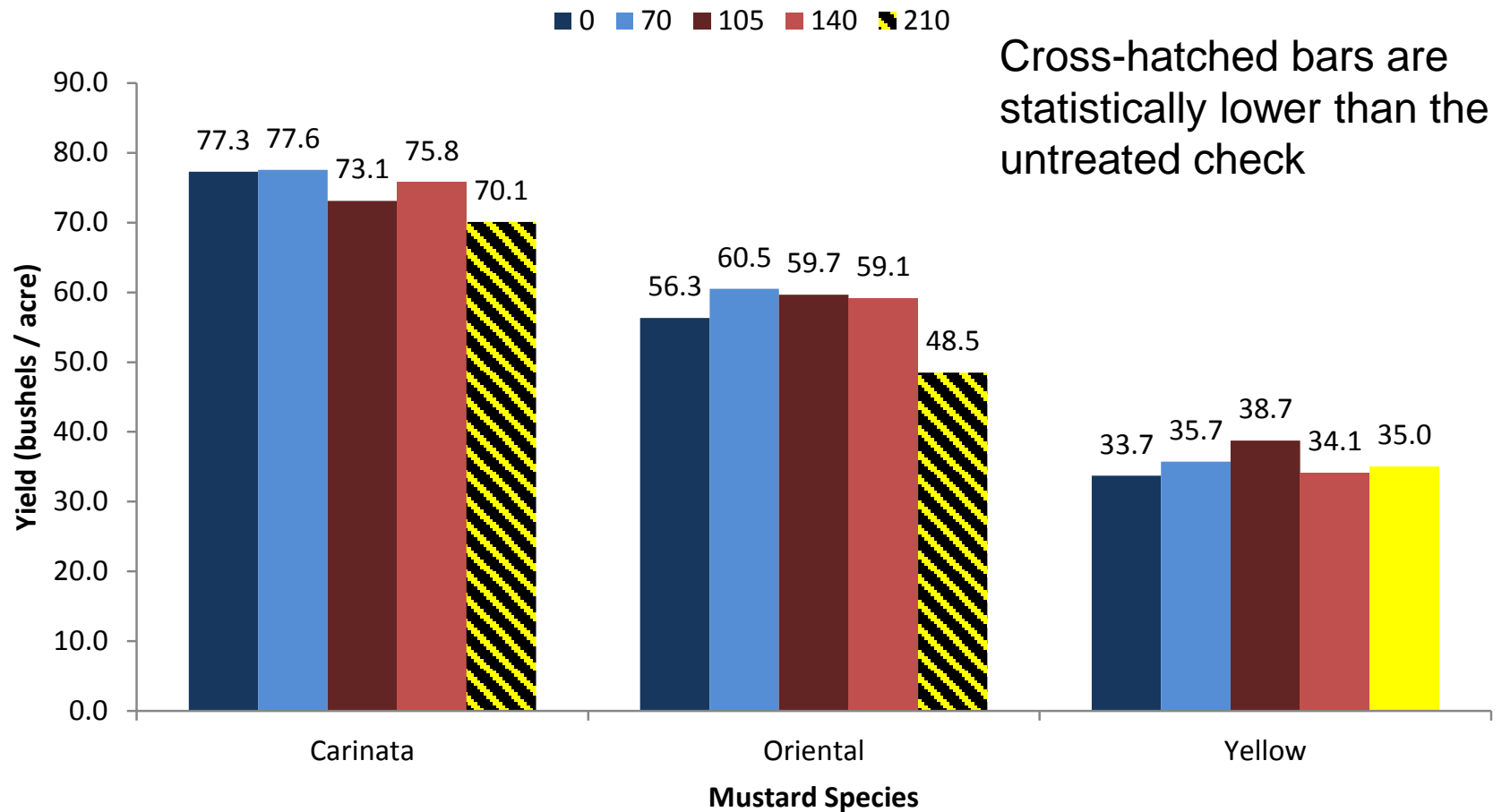
# Authority in Mustard, Scott ,2013

## Effect on plant stand



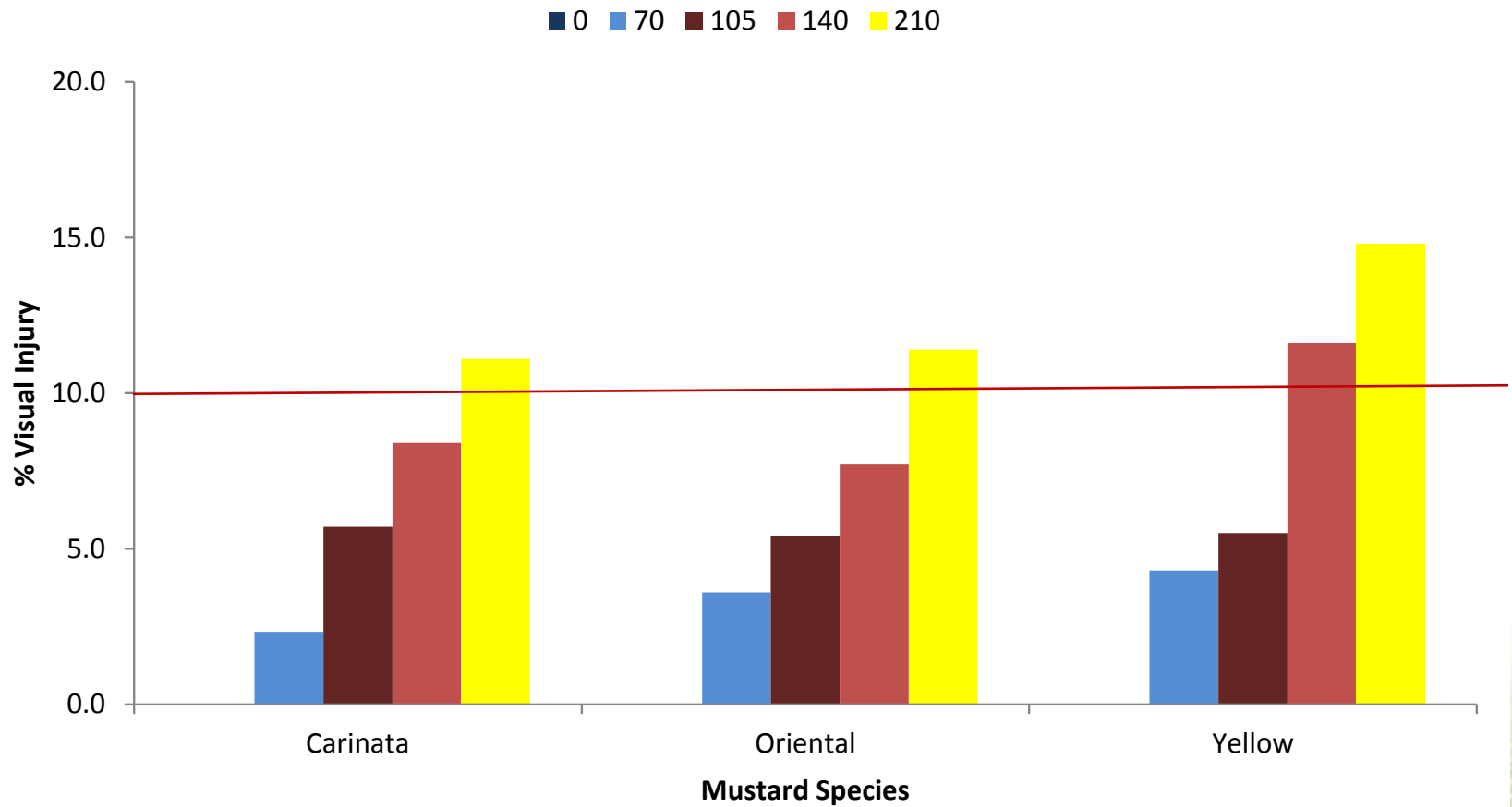
# Authority in Mustard, Scott ,2013

## Effect on Seed Yield



# Authority in Mustard, Scott ,2013

## Effect on Crop Injury





# **HERBICIDE TOLERANCE DEVELOPMENT**



# Herbicide Tolerance Goals

- *Brassica carinata*
  - Group 2 herbicide tolerance (imi, su) stacked with Group 4 tolerance (fluroxypyr, dicamba)
- Tolerance being developed either through seed or microspore mutagenesis.









# New Agronomic Studies



- Located at Scott, Swift Current, and Lethbridge, AB
- Crop Sequence Study
- N X seeding rate – Weedy and Weed-free

