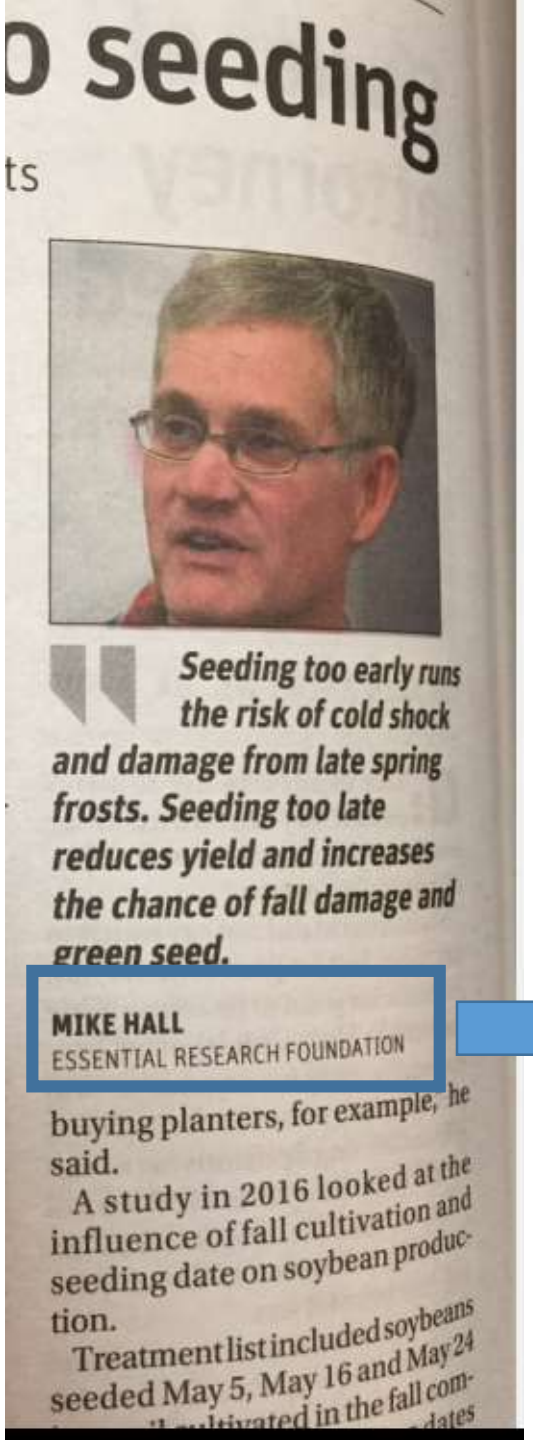
Is Your Nitrogen Disappearing Into Thin Air?

PARKLAND COLLEGE

www.ecrf.ca

EAST CENTRAL RESEARCH FOUNDATION
ECRF

Mike Hall – Research Coordinator
Heather Sorestad – Research Assistant (graph expert)



o seeding

ts

Seeding too early runs the risk of cold shock and damage from late spring frosts. Seeding too late reduces yield and increases the chance of fall damage and green seed.

MIKE HALL
ESSENTIAL RESEARCH FOUNDATION

buying planters, for example, he said.

A study in 2016 looked at the influence of fall cultivation and seeding date on soybean production.

Treatment list included soybeans seeded May 5, May 16 and May 24

"East Central" not "Essential"

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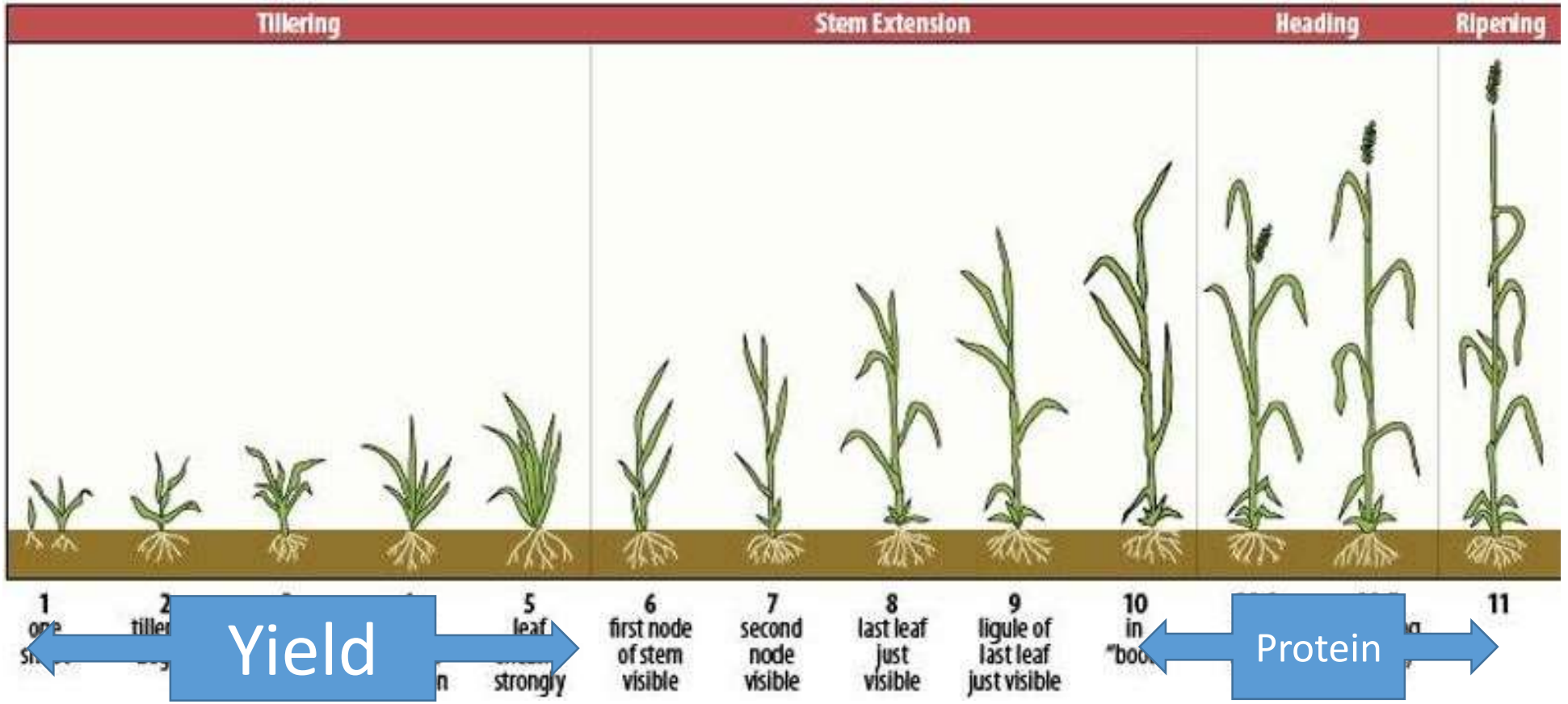
Main Avenues of Nitrogen Loss

- Volatilization: $NH_4^+ \rightarrow NH_3 + H^+ \uparrow$
- Denitrification: $NO_3^- \rightarrow N_2 + H_20 \uparrow$
- Leaching: $NO_3^- \downarrow$

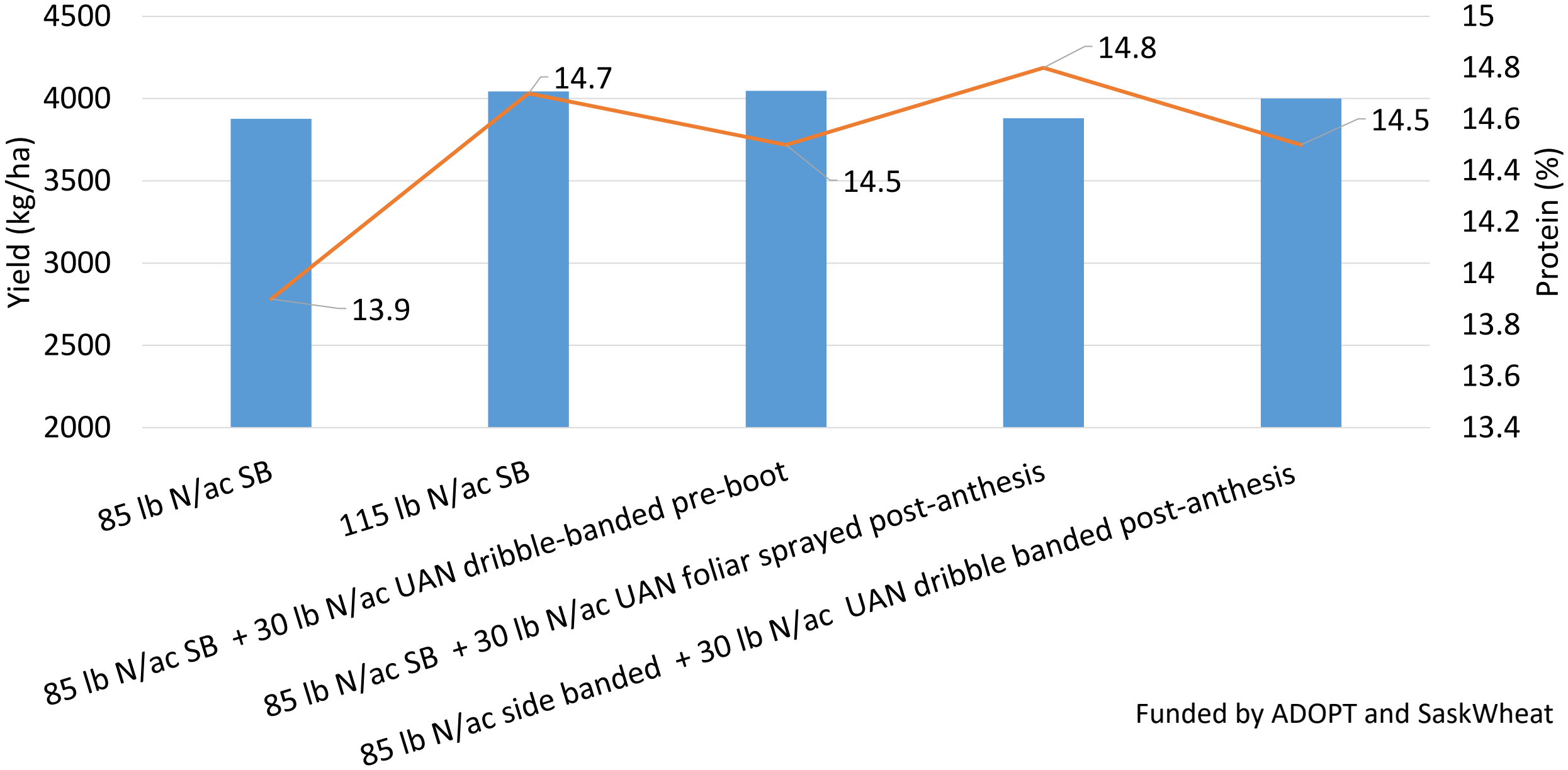
4Rs of Nitrogen Management

- Right Rate
- Right Time
- Right Place
- Right Form
  - SUPERU
  - Agrotain

- Post seeding applications?
  - Applications of N prior to 5 leaf stage mostly go towards yield (needs rain)
  - Application of N at boot or after flowering go most towards protein (needs rain)



Impact of Late Season Nitrogen on Wheat Yield and Protein
(2018-averaged over 7 locations by 2 nitrogen rates)



Funded by ADOPT and SaskWheat

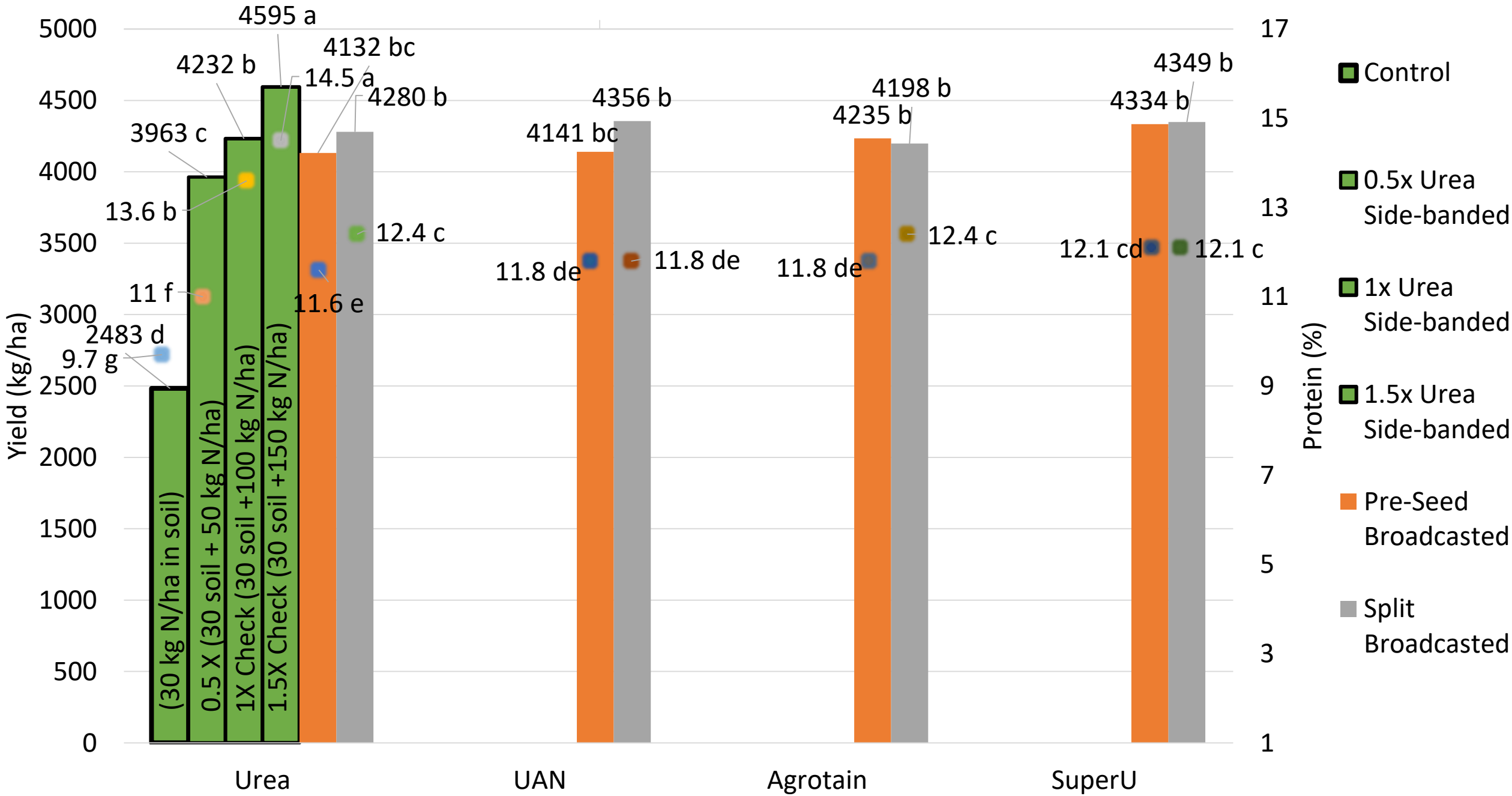
Demonstrating 4R Nitrogen Principle in Wheat and Canola

Funded by:

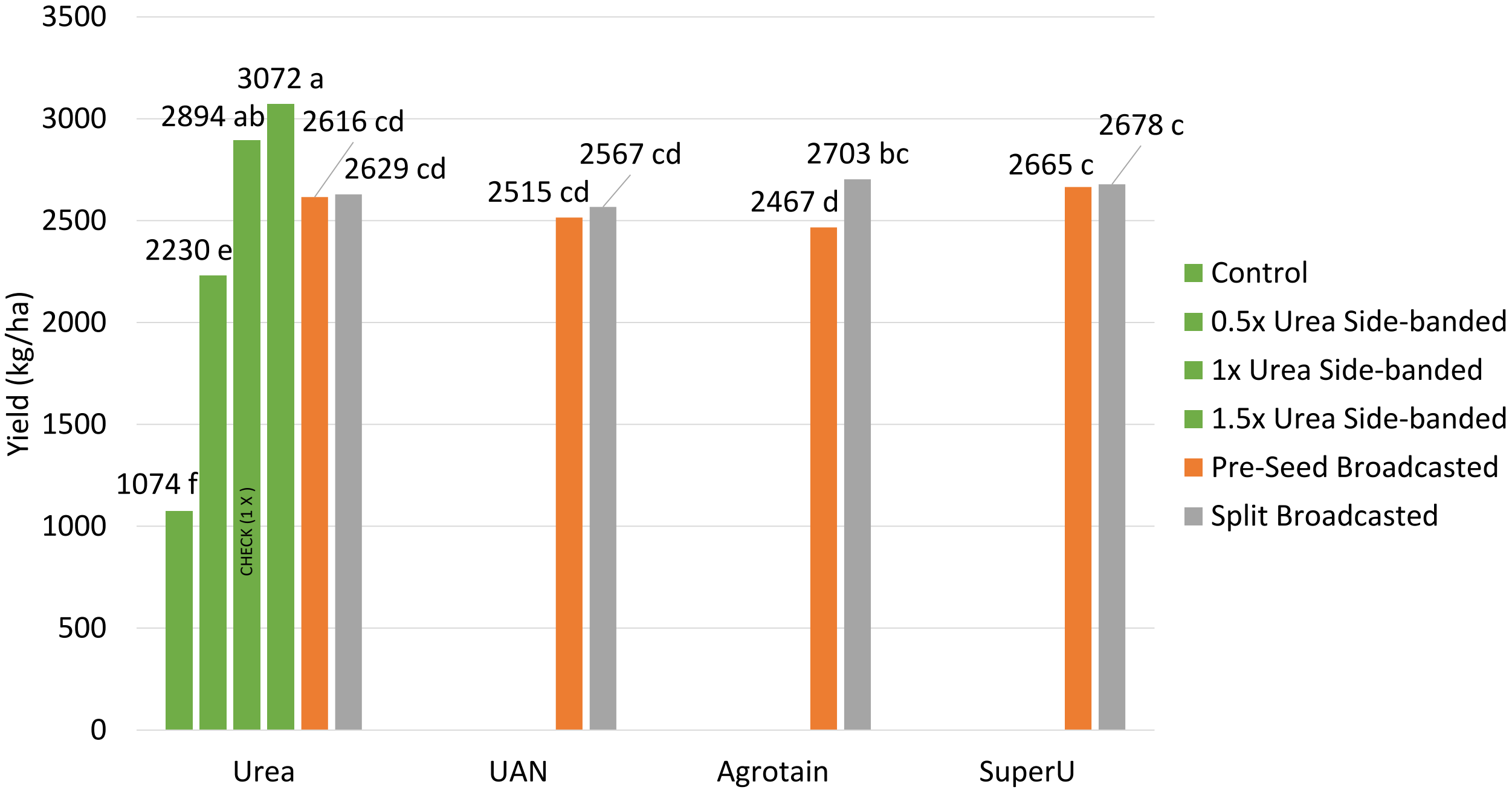
FERTILIZER CANADA
FERTILISANTS CANADA

Agriculture Demonstration of Practices and Technologies

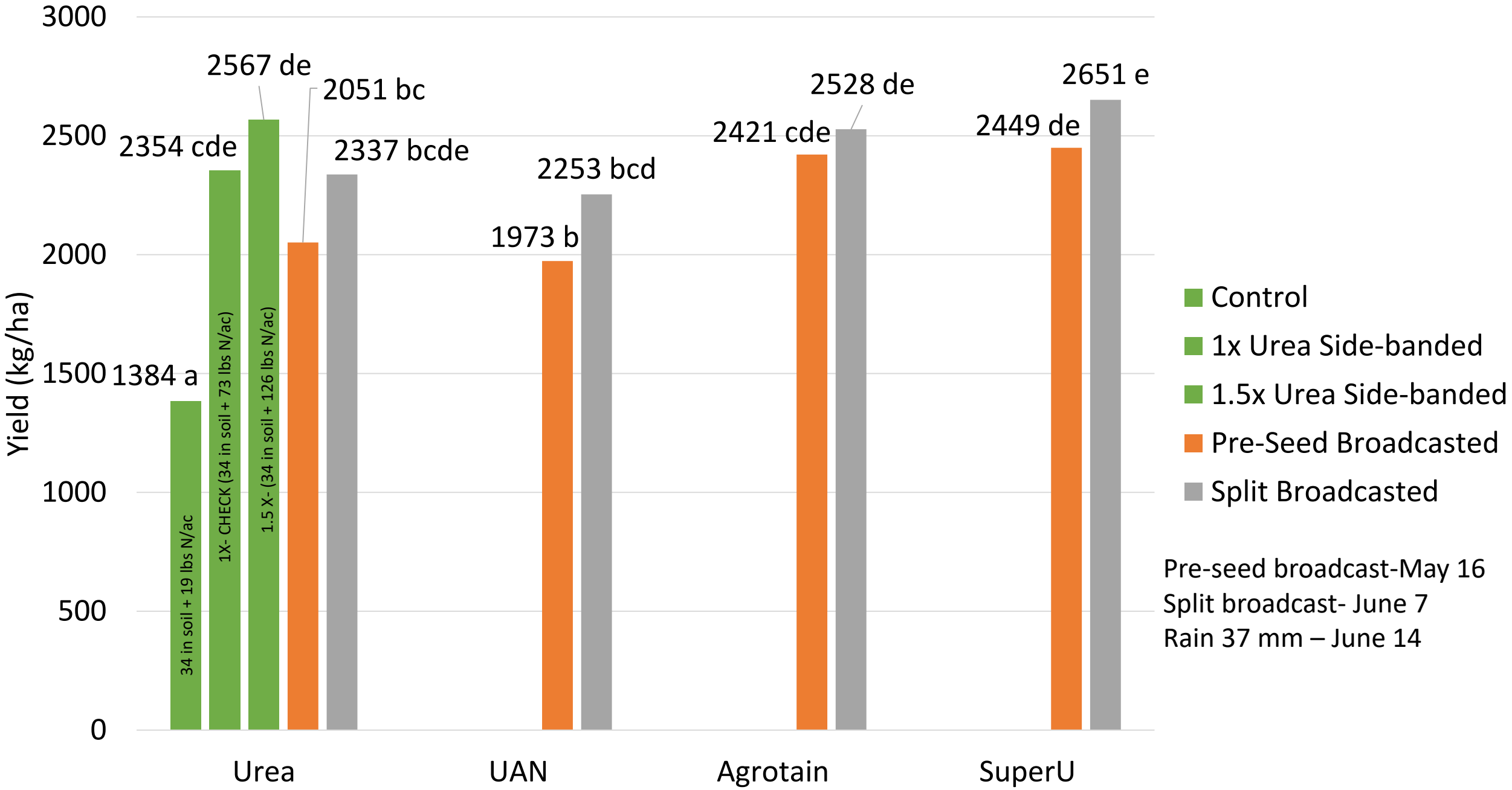
IHARF Nitrogen Product and Placement Effects on Wheat Yield (2017)



IHARF Nitrogen Product and Placements Effects on Canola Yield (2017)



ECRF Nitrogen Product and Placements Effects on Canola Yield (2017)



4R Fall Applied Urea to Spring Wheat 2018

Funded by:

Agriculture Demonstration of Practices and Technologies

Broadcast Urea and SUPERU

- Early Fall (Oct. 2)
- Late Fall (Oct. 27)
- Early Winter on 10 cm of snow (Nov. 5)

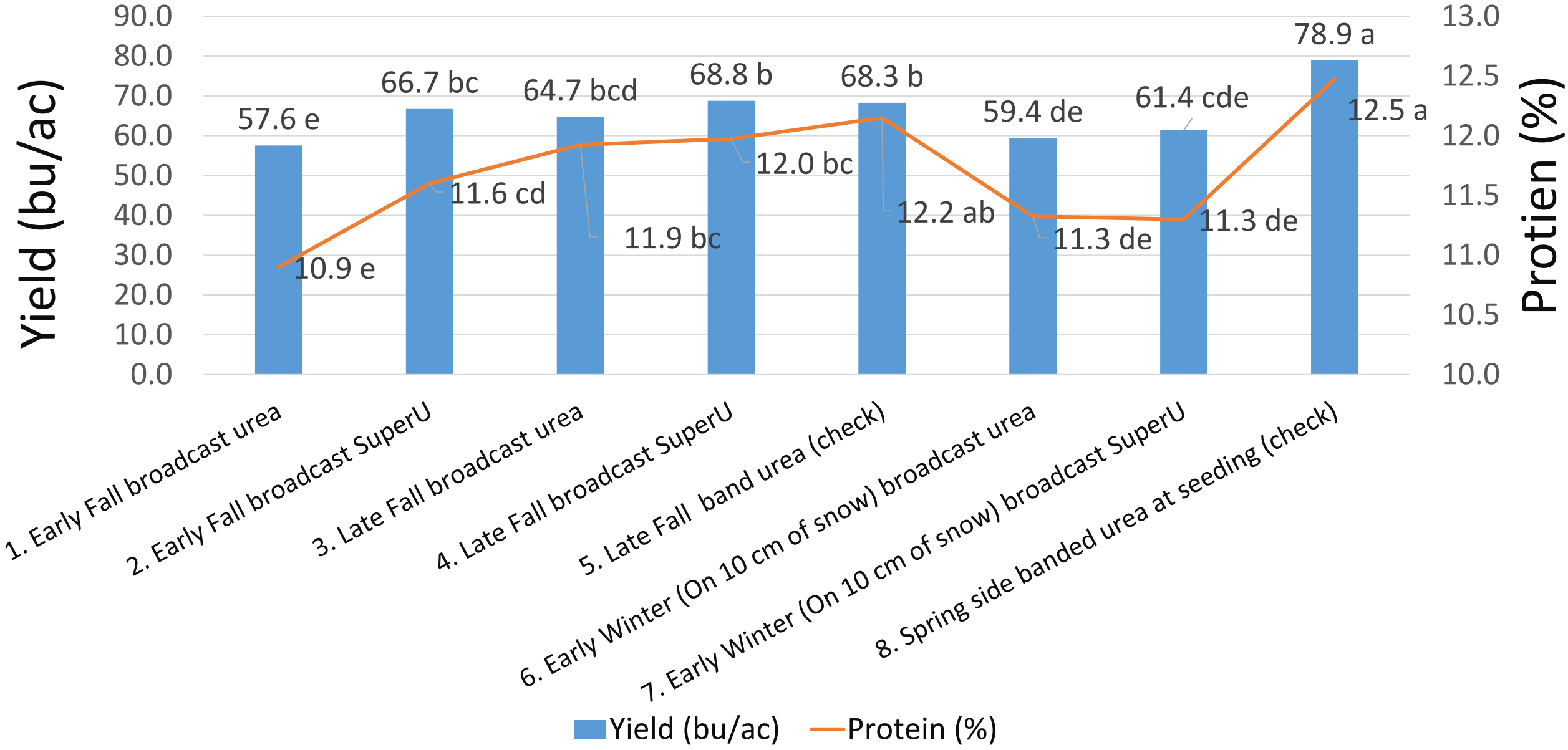
VERSUS

Banded Urea Checks

- Late Fall (Oct. 27)
- Side banded at seeding


Spring Side-Banded Urea at Seeding
Early Winter Broadcast Urea

Effect of Urea (174 lbs/ac) Source and Timing on Yield and Protein of Wheat[1]



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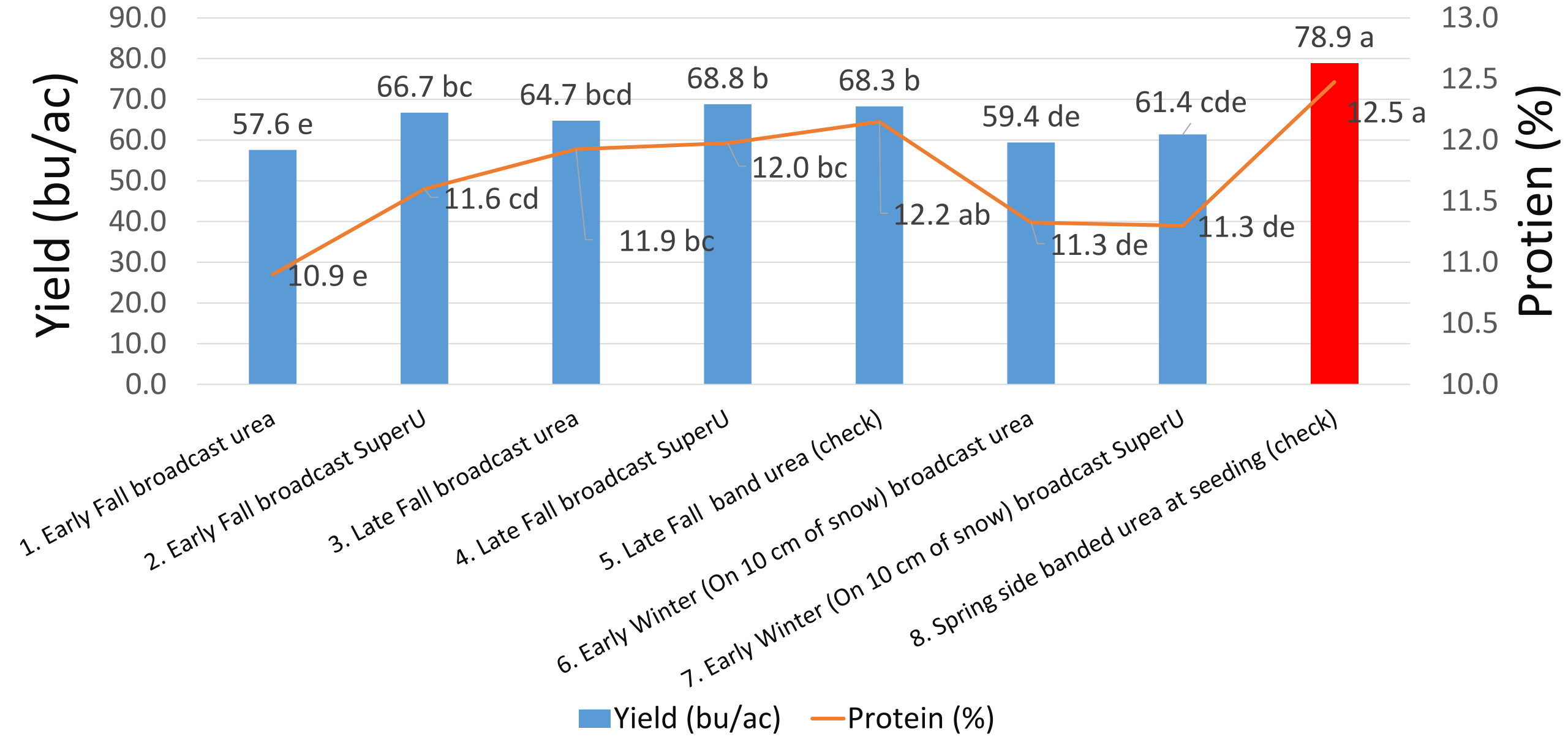

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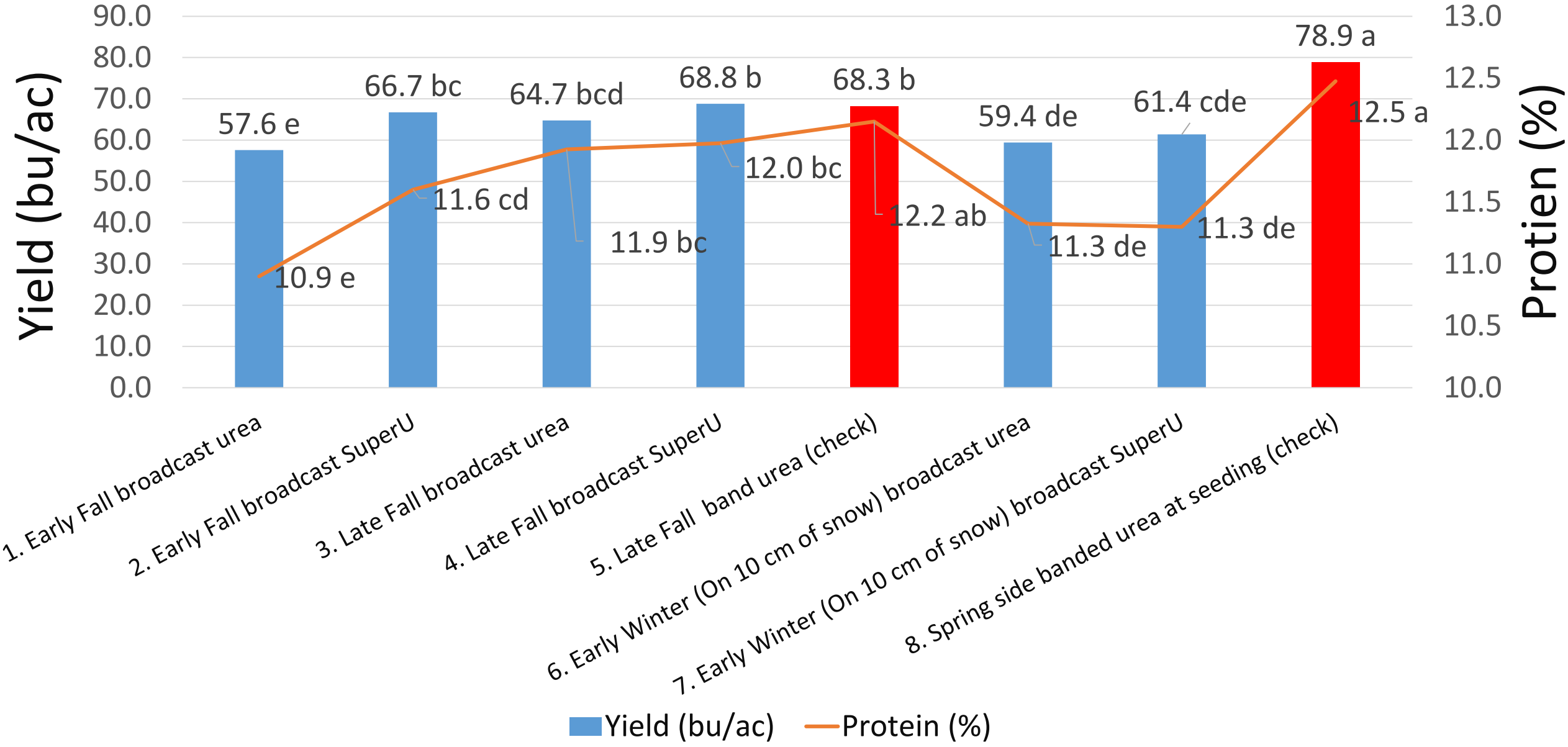

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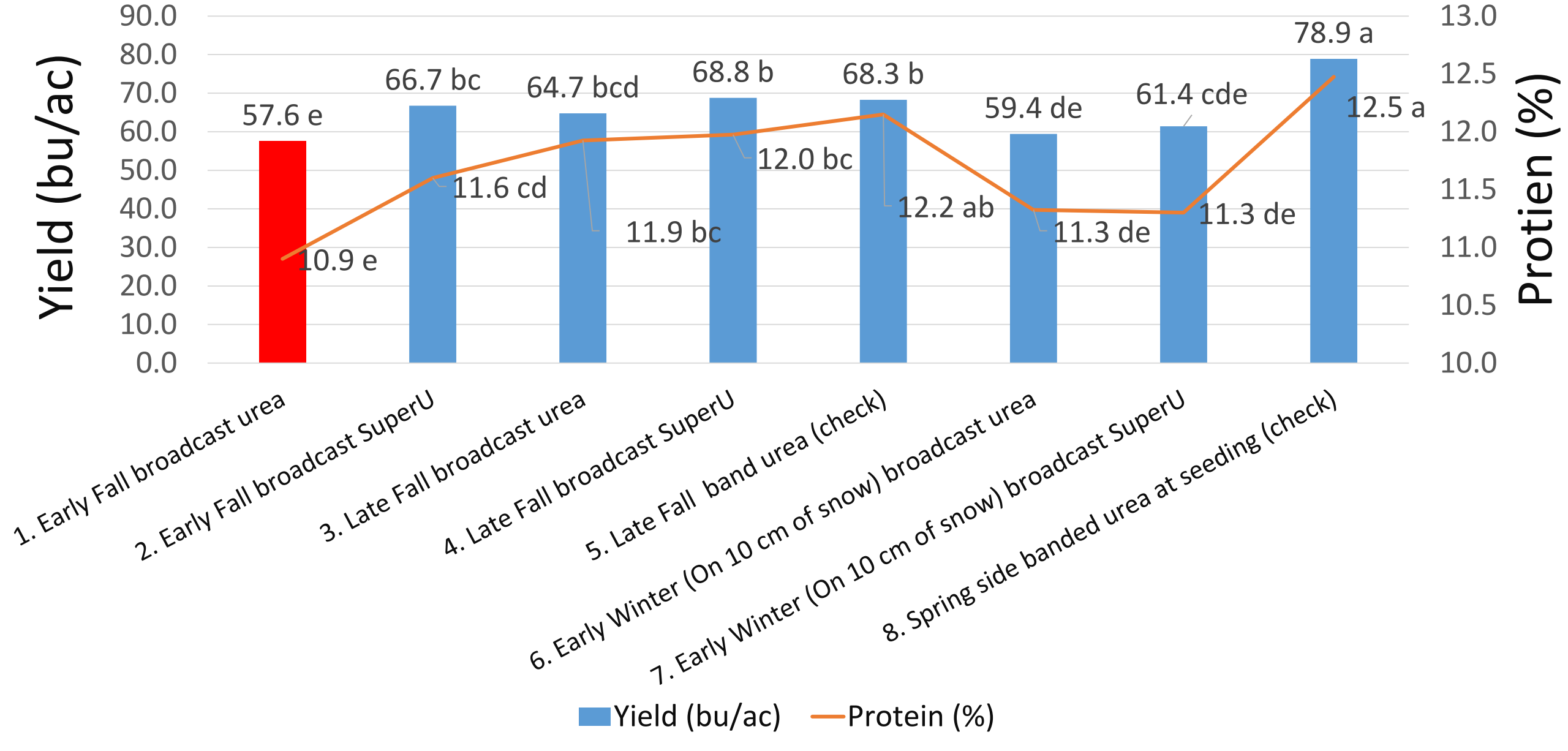

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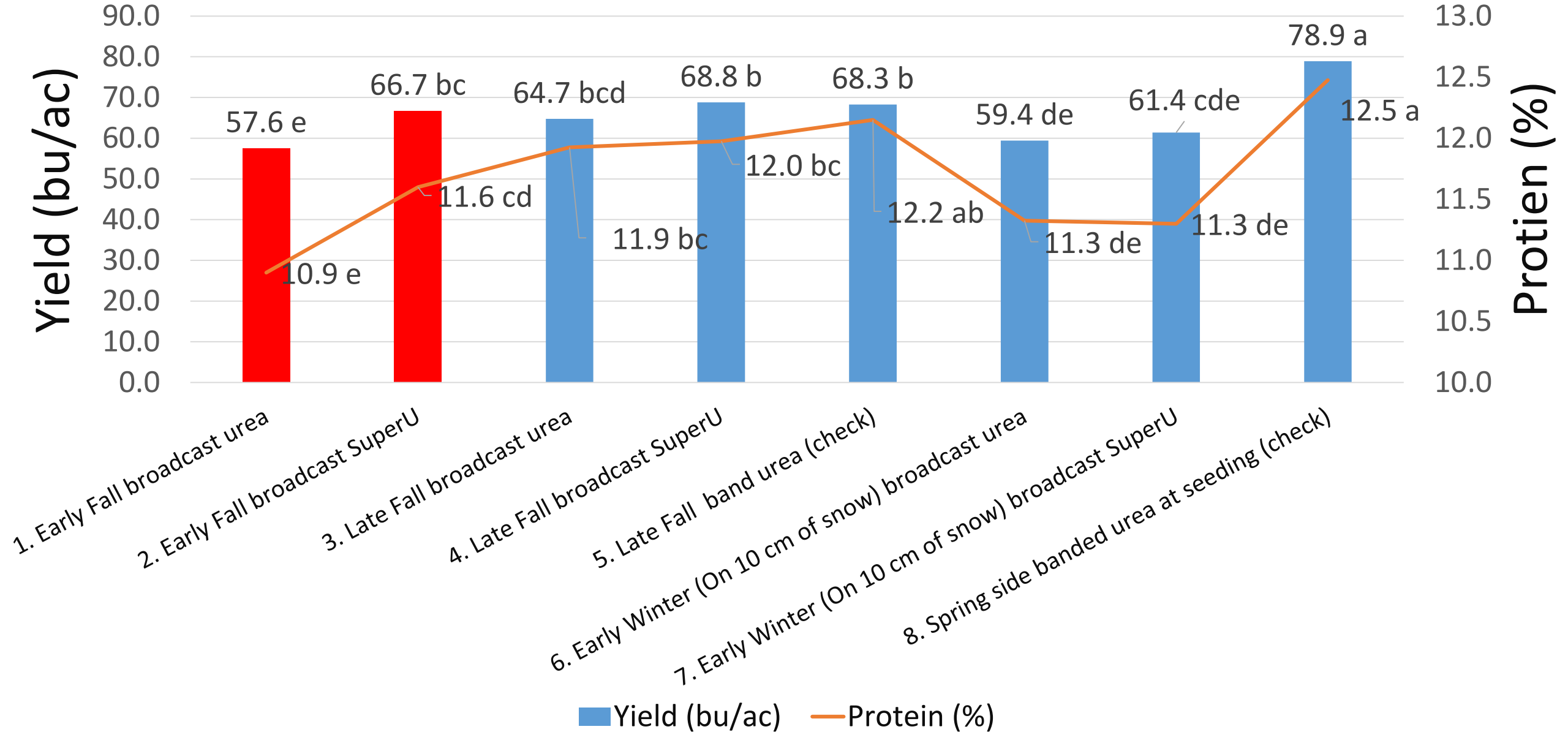

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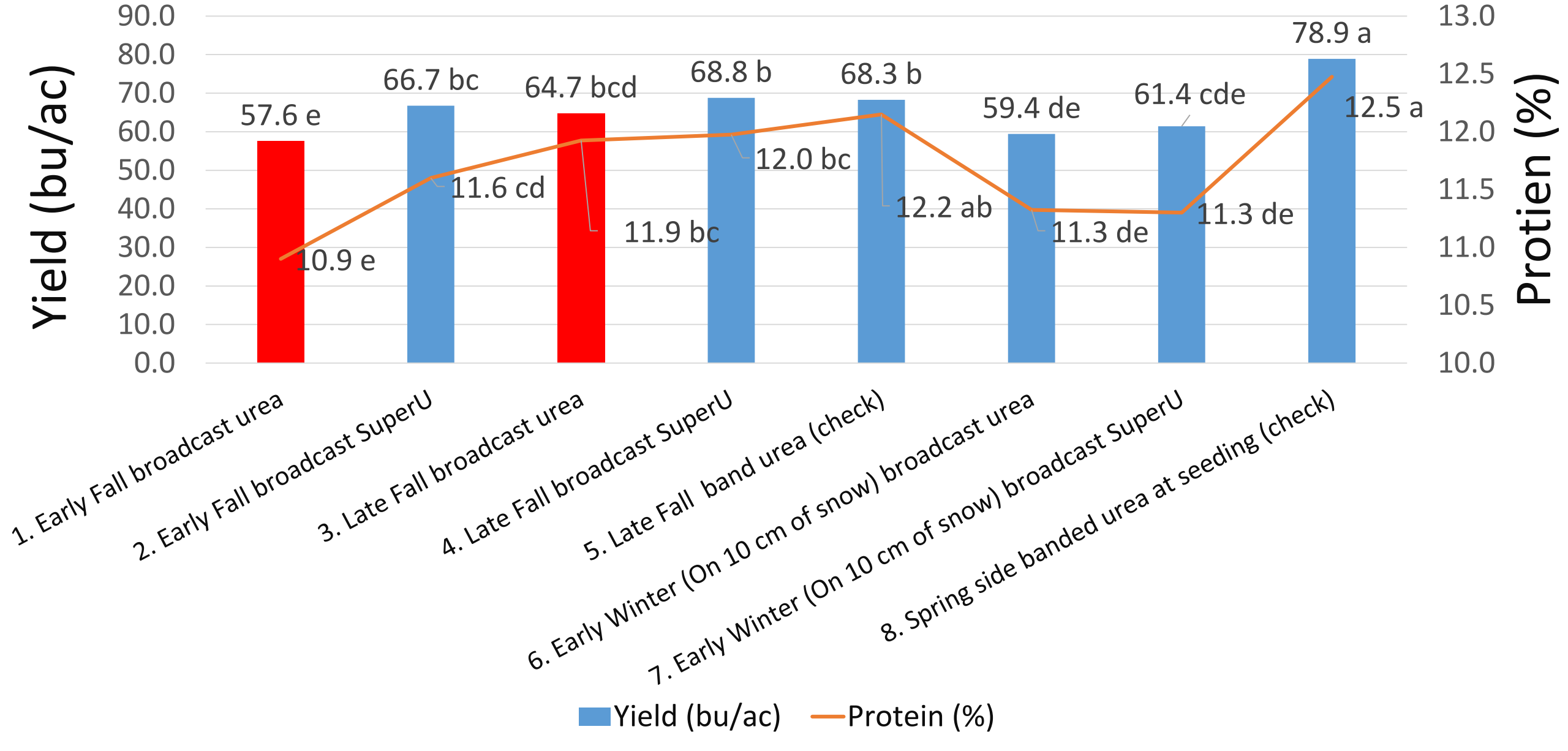

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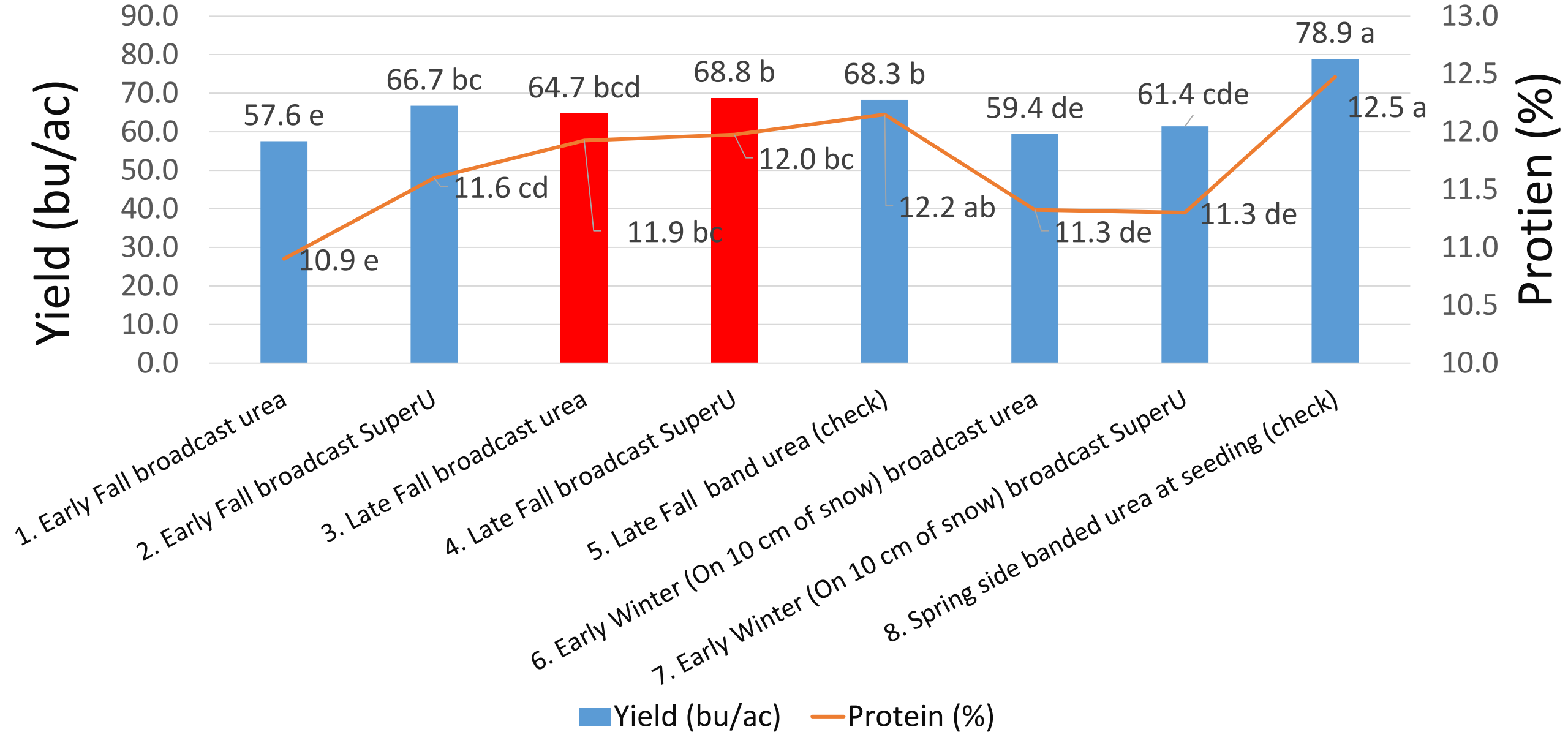

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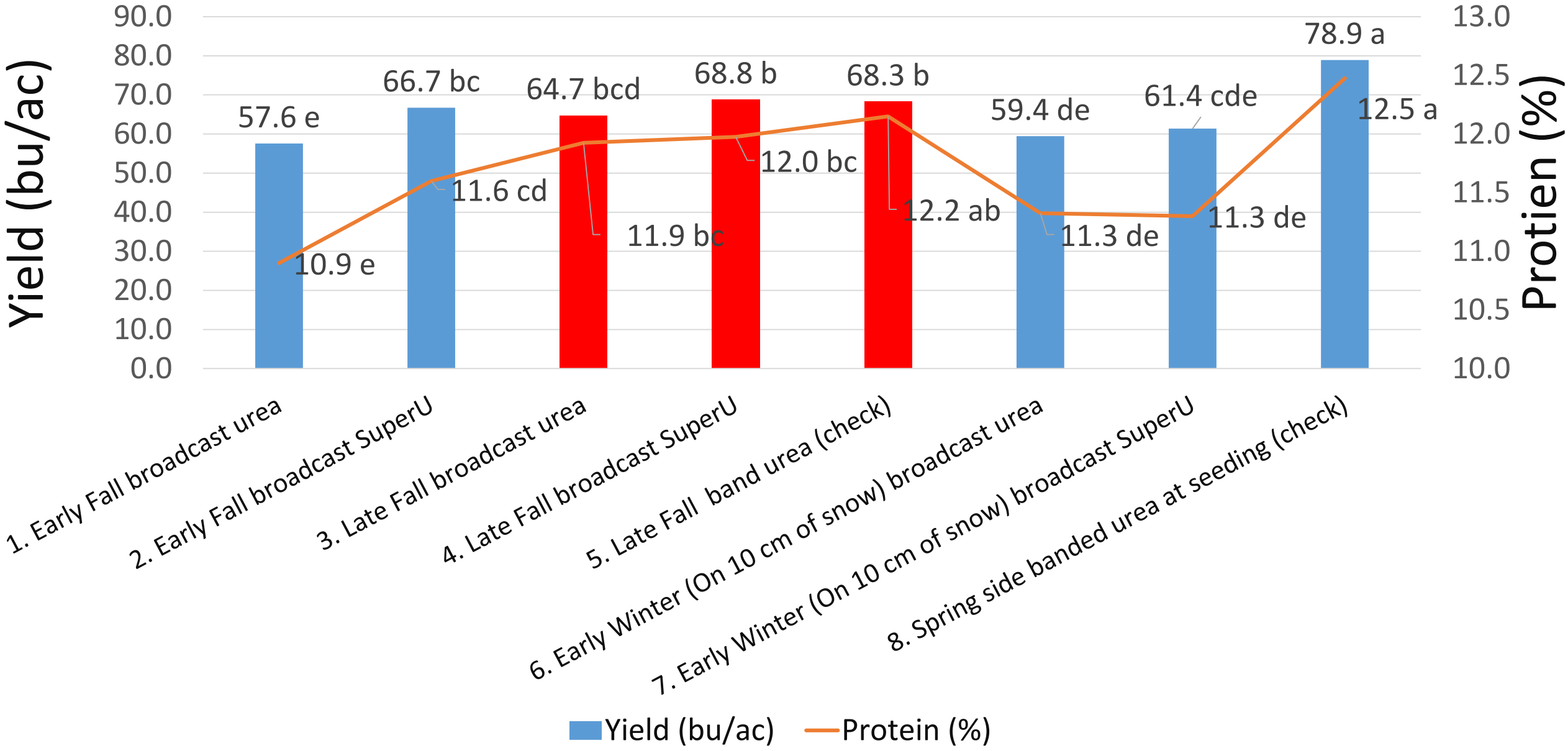

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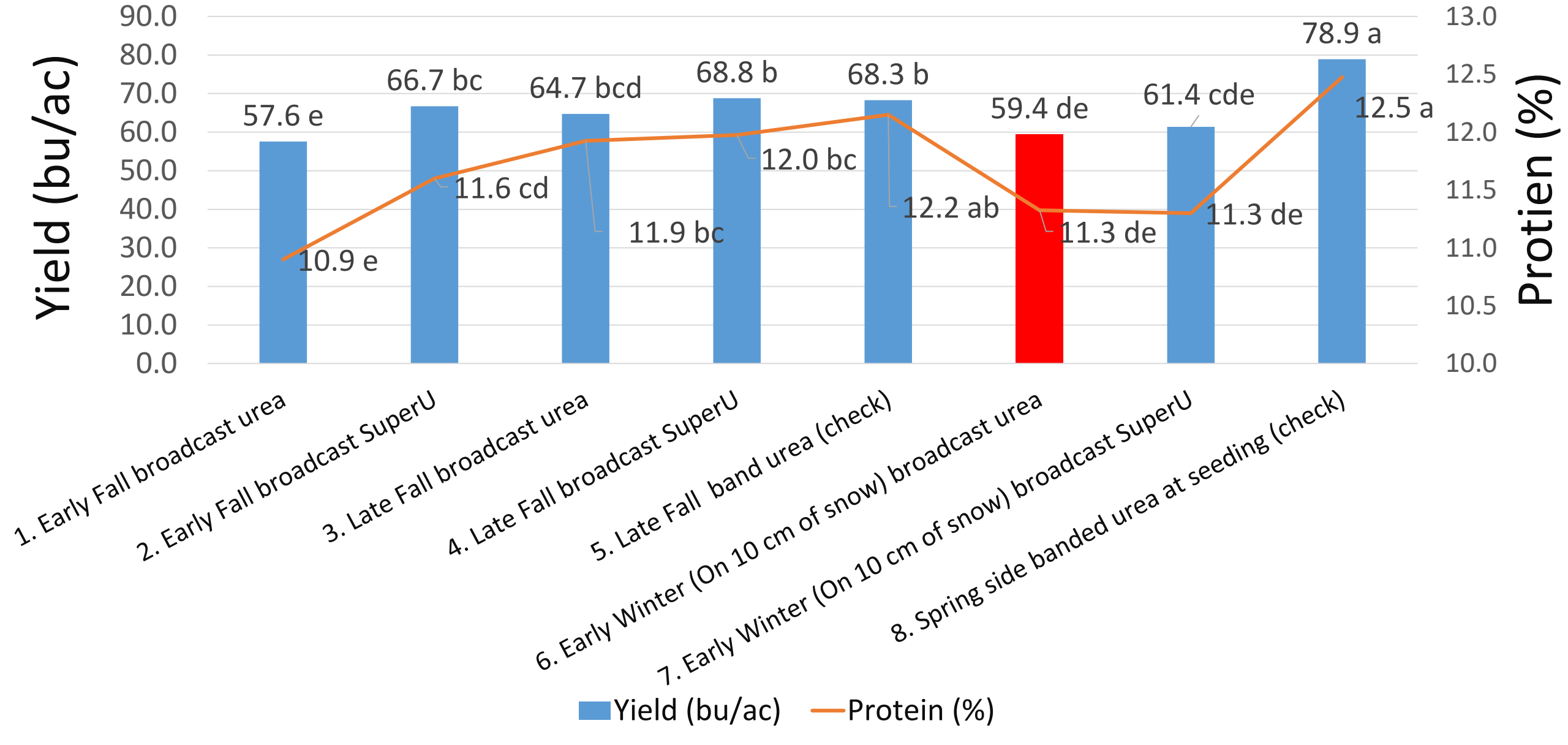

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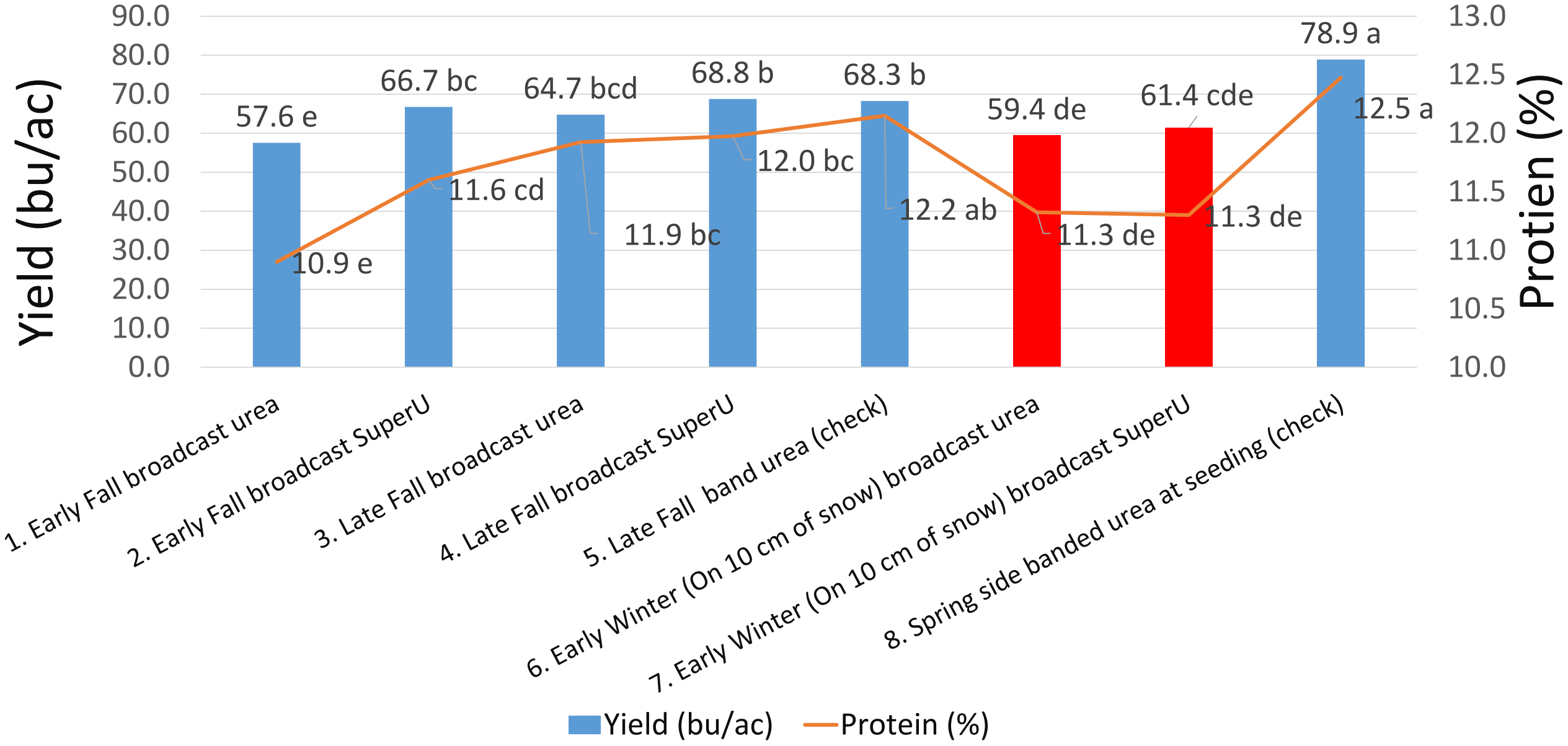
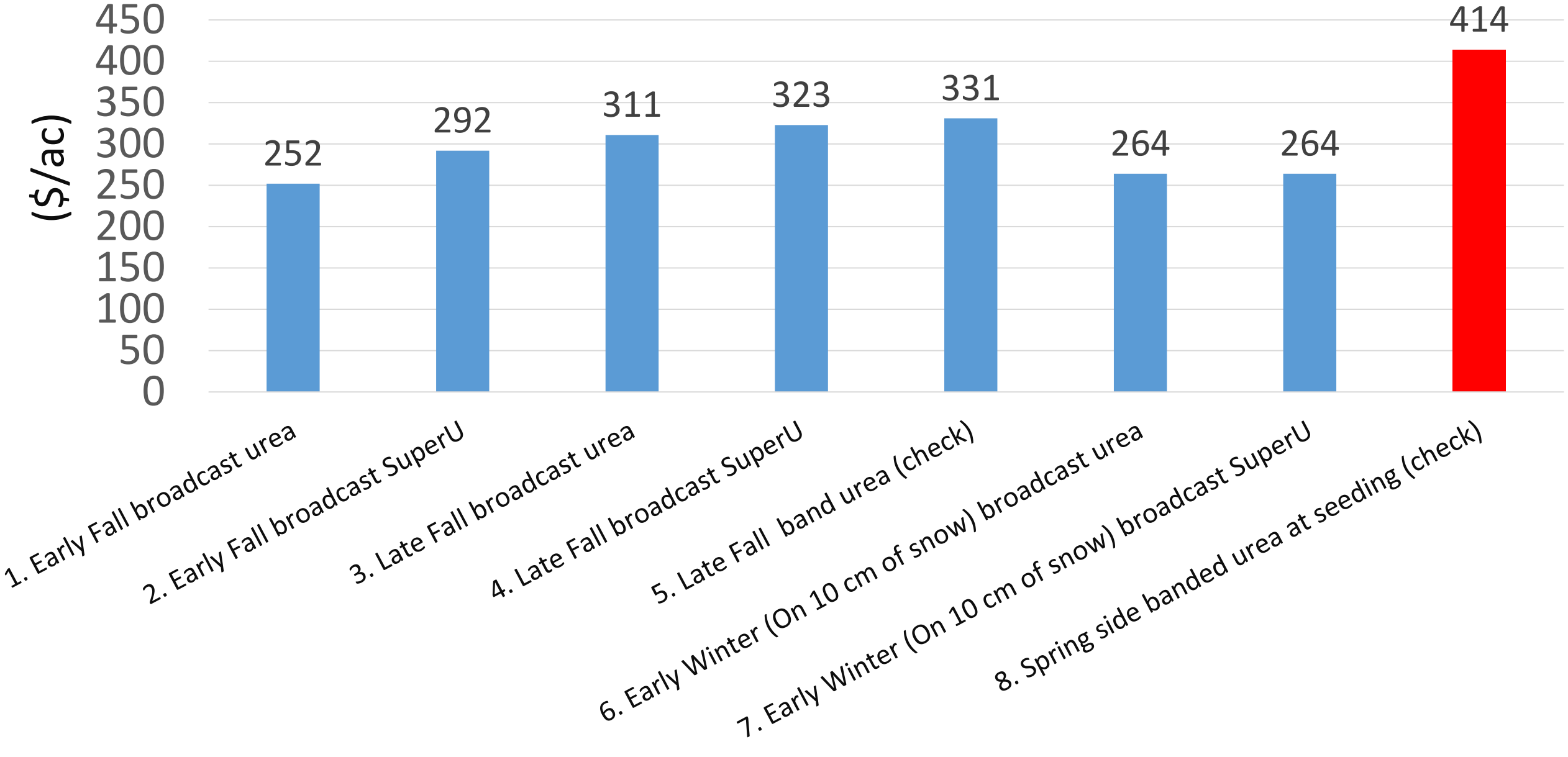


Wheat price available for Yorkton on Feb 9, 2018 for CWRS No 1.

Grain Protein (%)	$/bushel
15.5	7.74
15	7.44
14.5	7.14
14	6.79
13.5	6.44
13	6.14
12.5	5.84
12	5.54
11.5	5.24
11	5.19
10.5	5.04
10	4.89

Urea- $509/tonne
SUPERU- $725/tonne

Effect of Urea (174 lbs/ac) Source and Timing on Gross Return - N cost ($/ac)[1]



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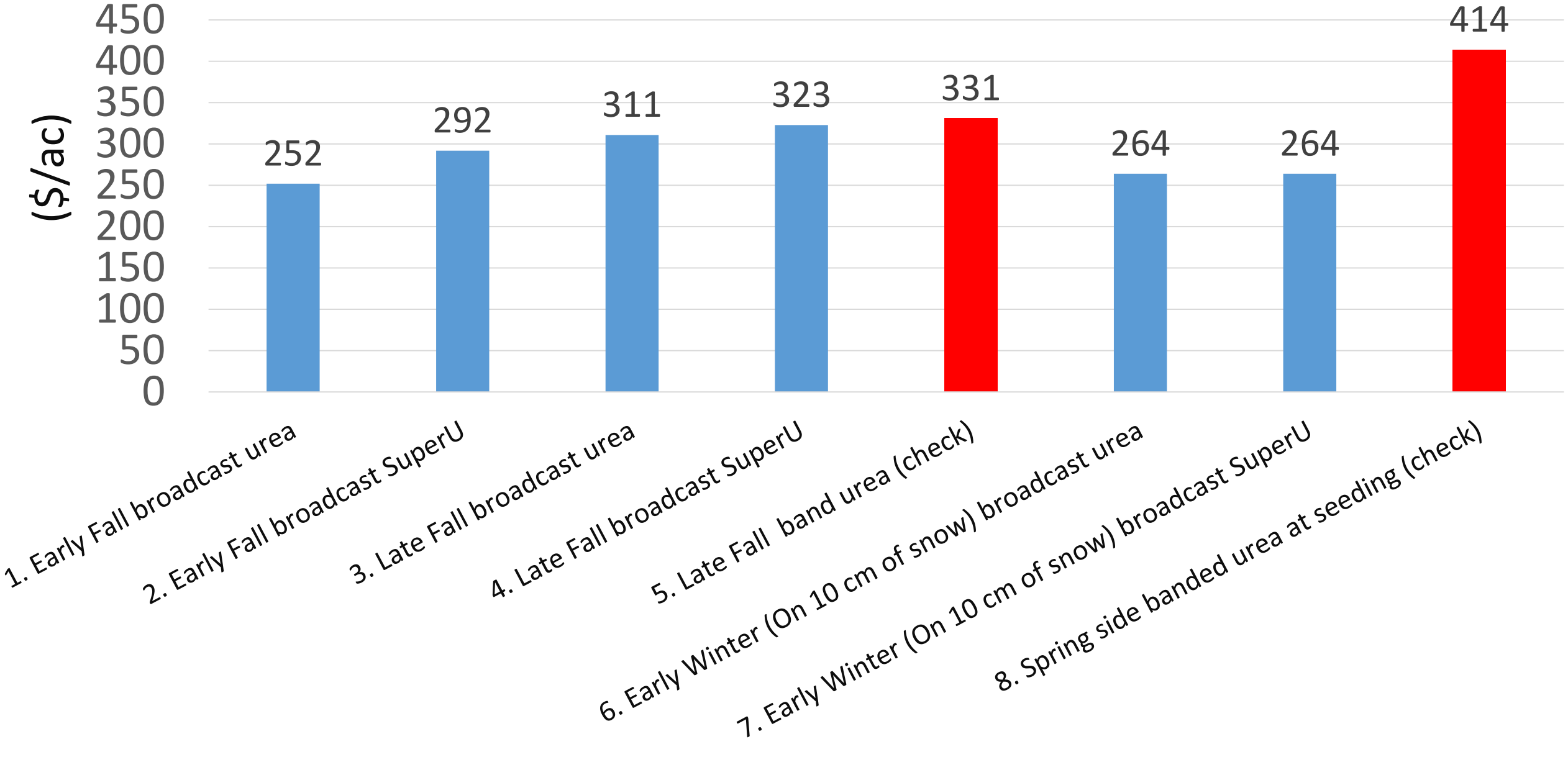

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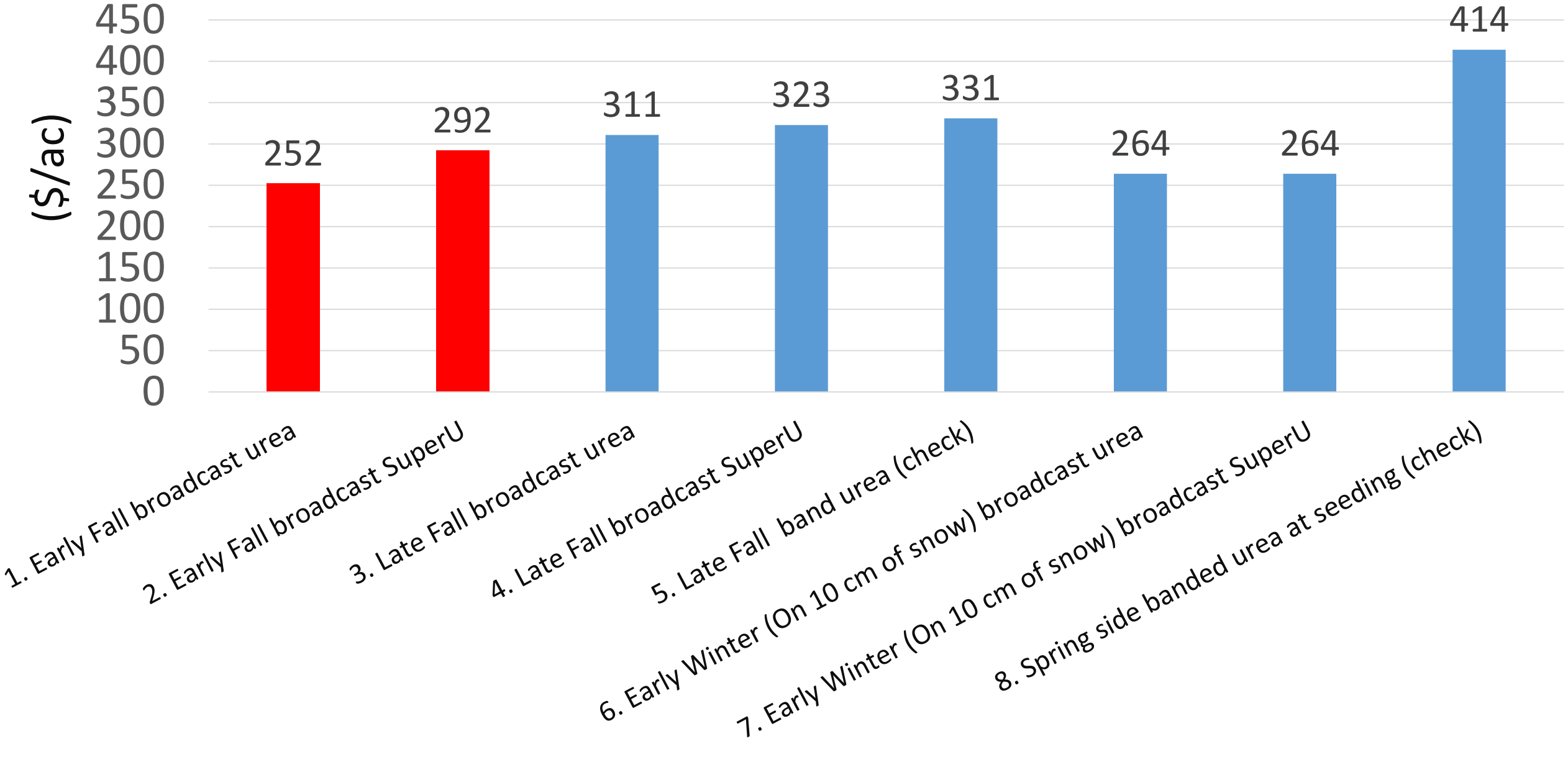

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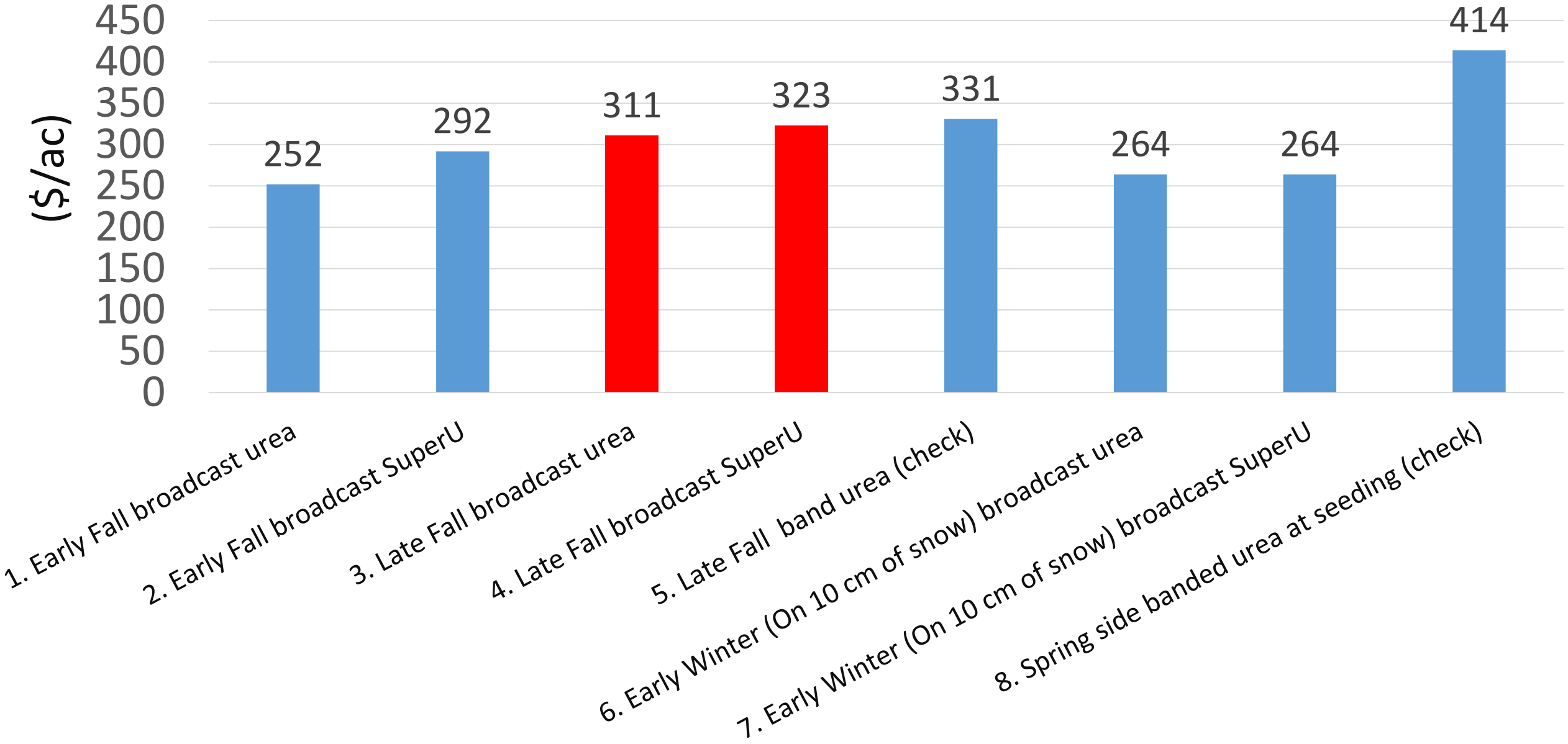

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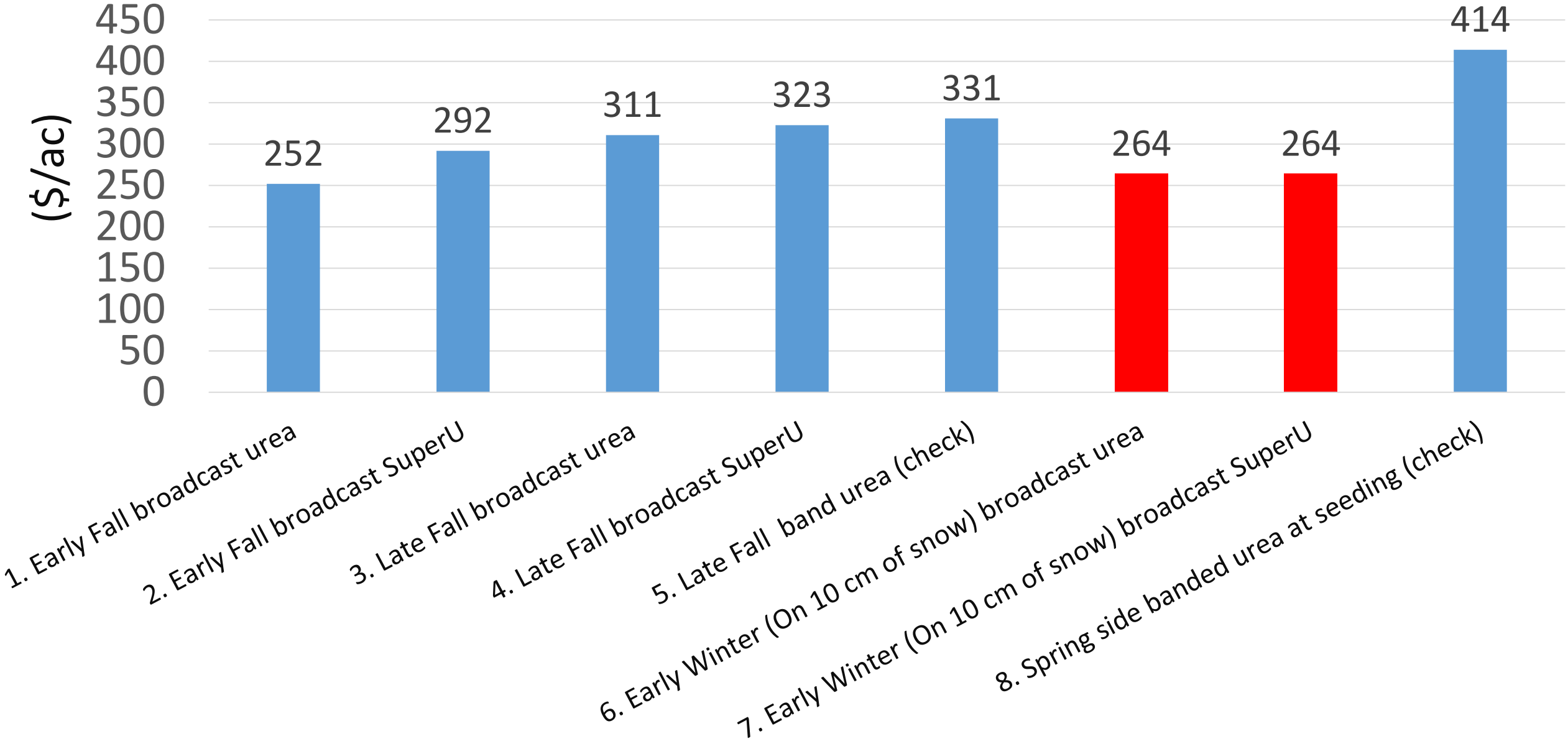

Conclusions

- Right Rate
- Right Time
- Right Place
- Right Form
  - SUPERU
  - Agrotain

THE END