

Cover Crop Termination

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Assistant Professor

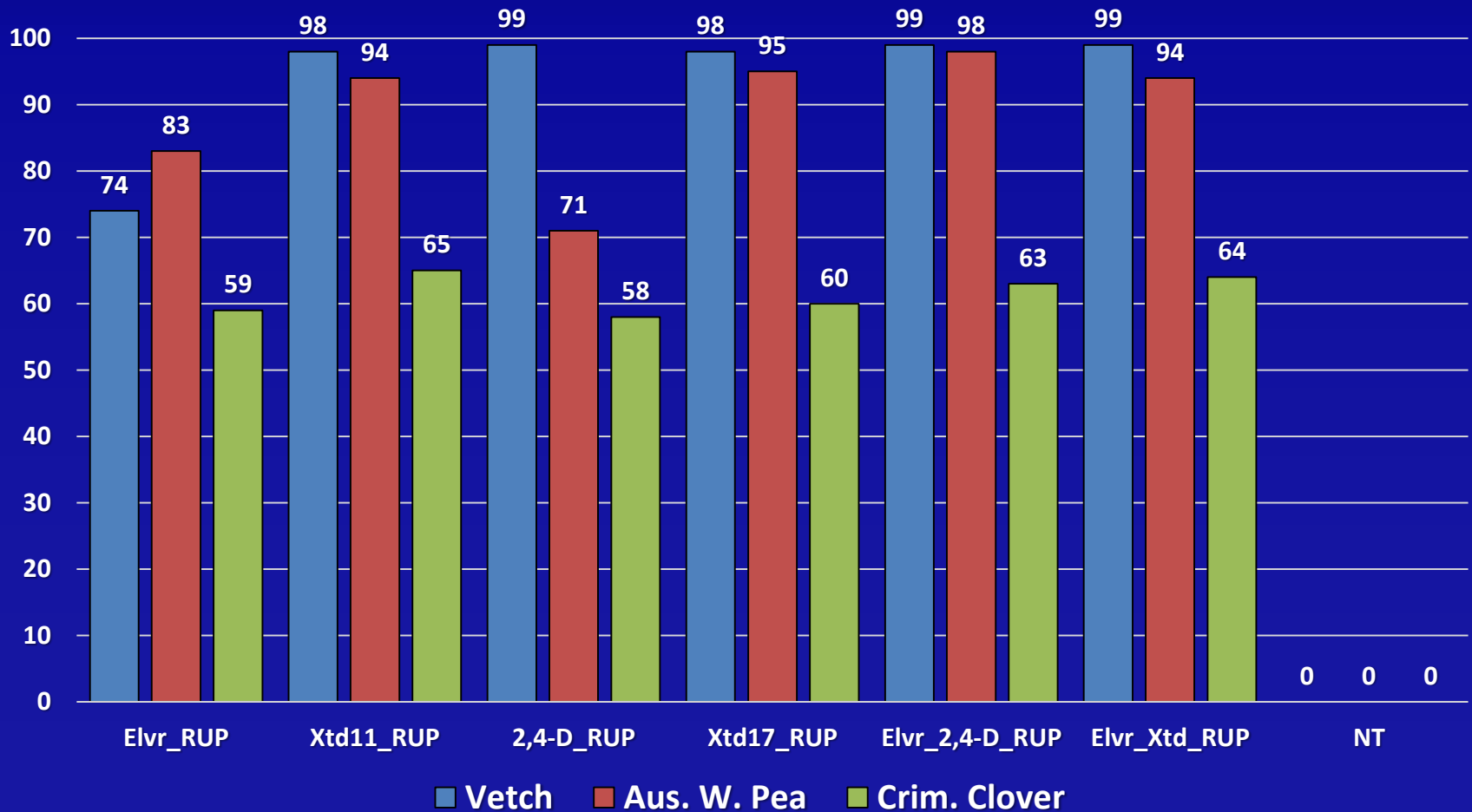
Northeast Research Station



NERS Termination Trials



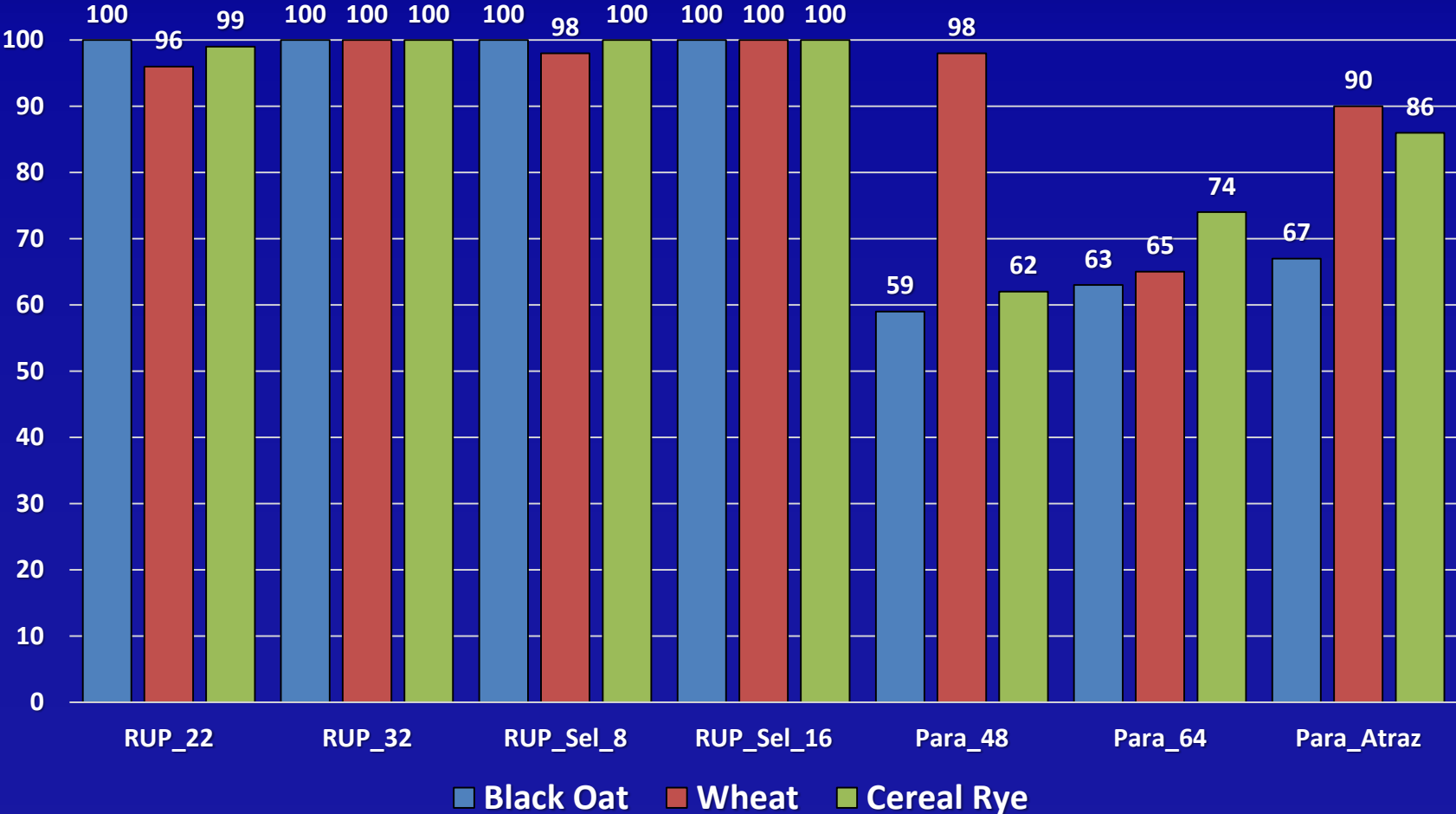
Legume Termination: 30 DAA



Sprayed on March 26, 2018

RUP = 32, Elevore = 1 oz/a or $\frac{3}{4}$ oz/a
2,4-D = 32 or 16 oz/a, Xtendimax = 11 or 17 oz/a

Cereal Termination: 30 DAA





RUP PM 22 oz



RUP PM 32 oz

Wheat 28 DAT



Gramoxone 48 oz



Gramoxone 64 oz



RUP PM 22 oz



RUP PM 32 oz

Black Oats 28 DAT

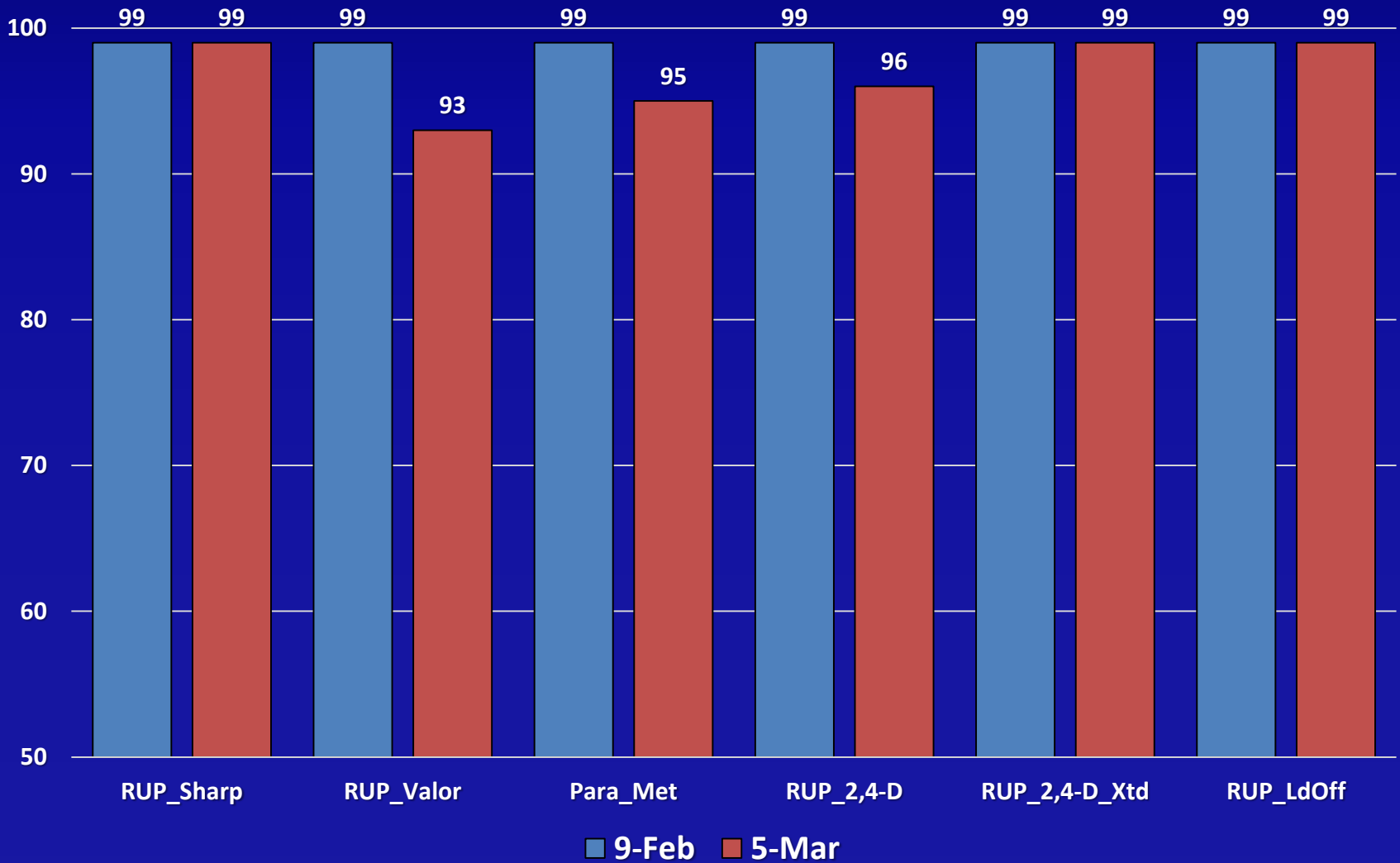


RUP PM 22 oz



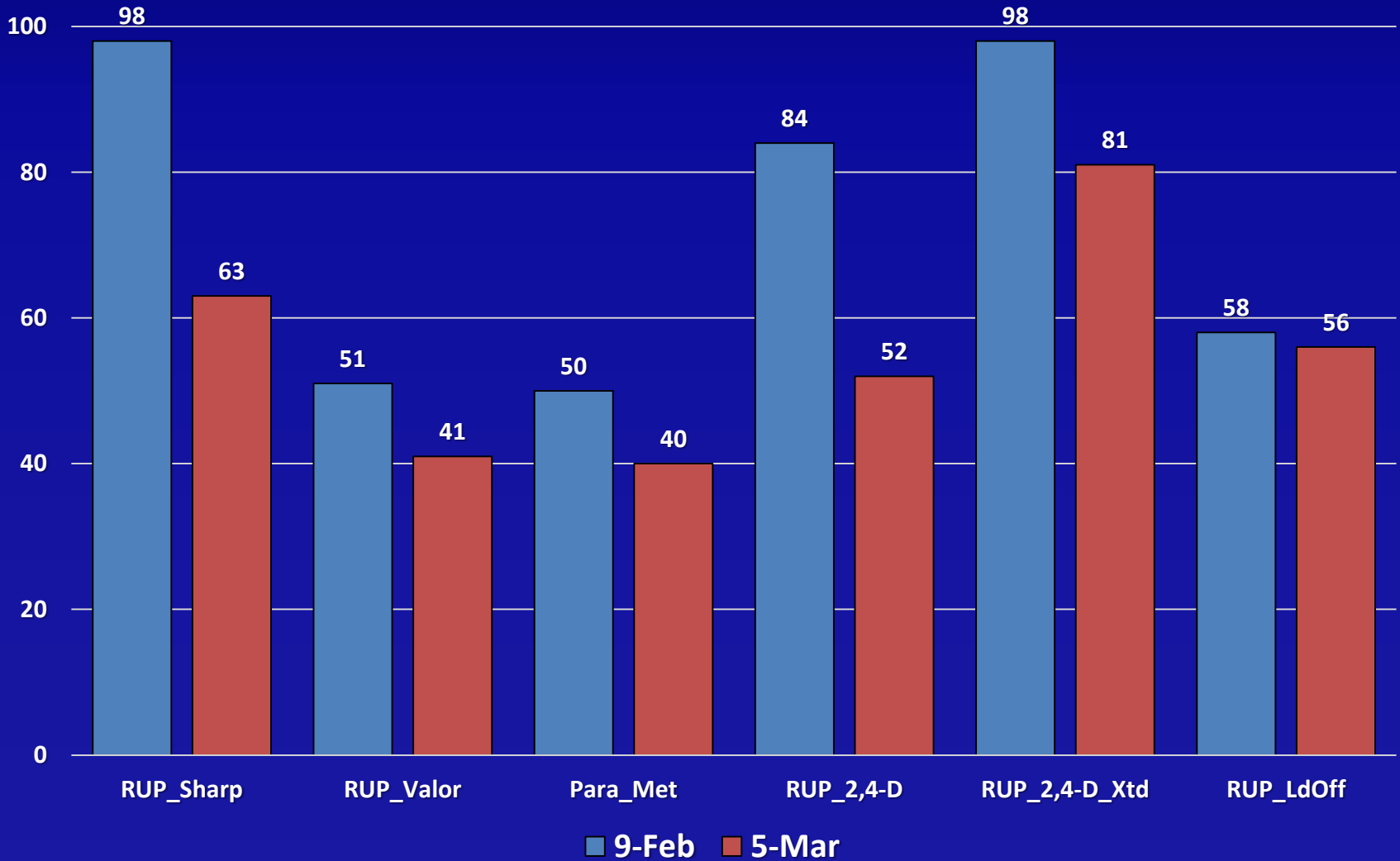
RUP PM 32 oz

Tillage Radish Termination: NERS



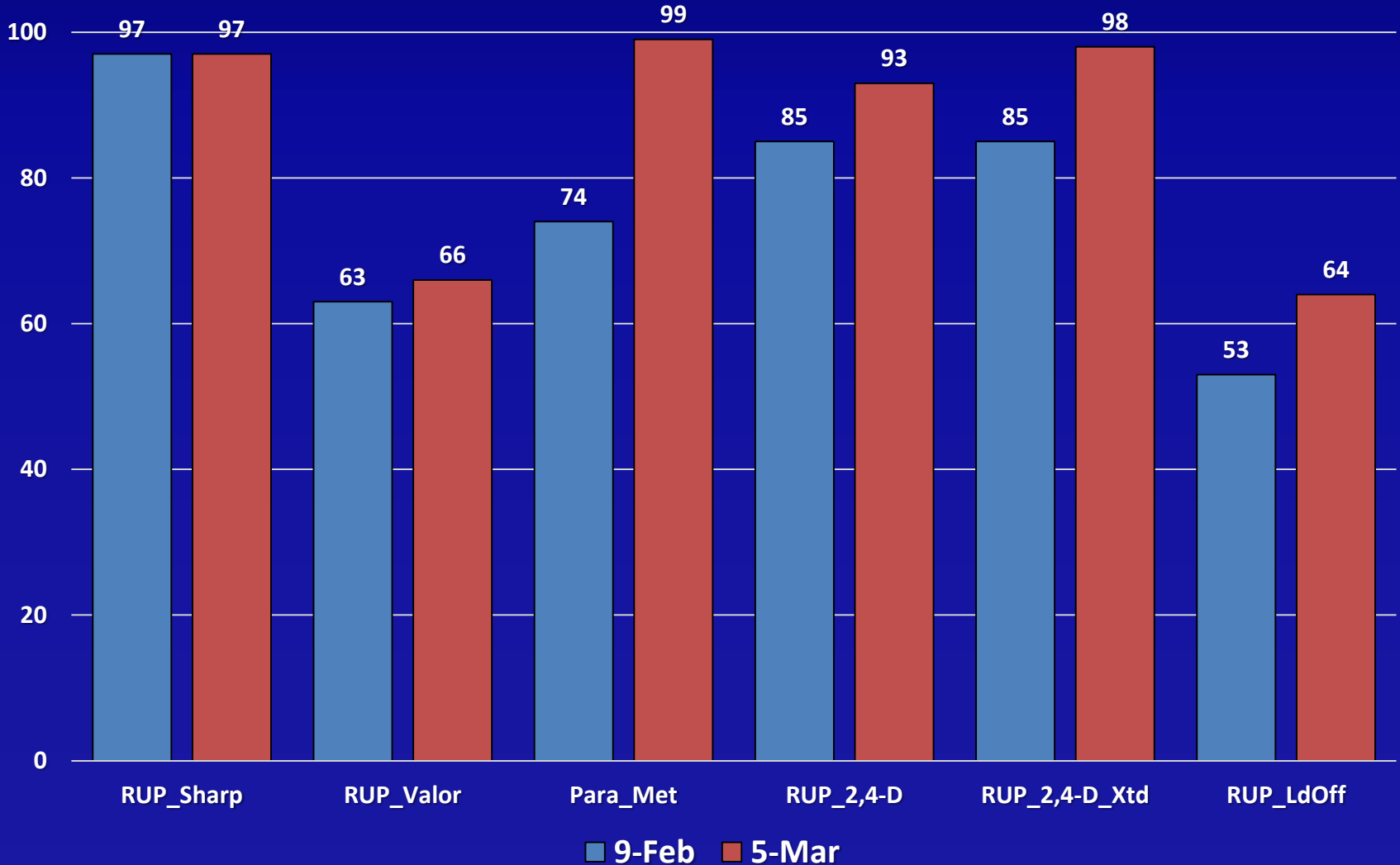
35 DAT

Crim. Clover Termination: NERS



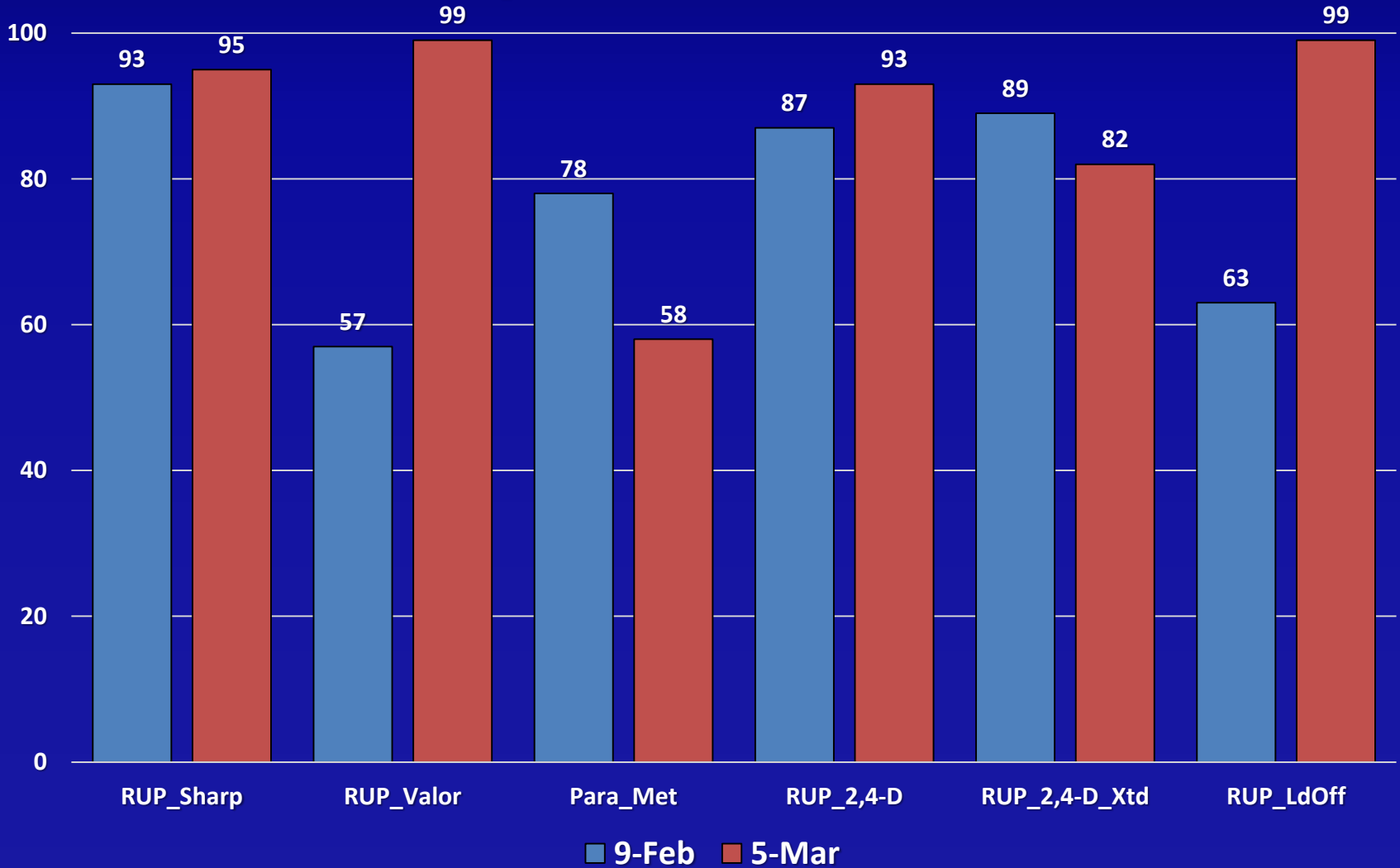
35 DAT

Aus. W. Pea Termination: NERS



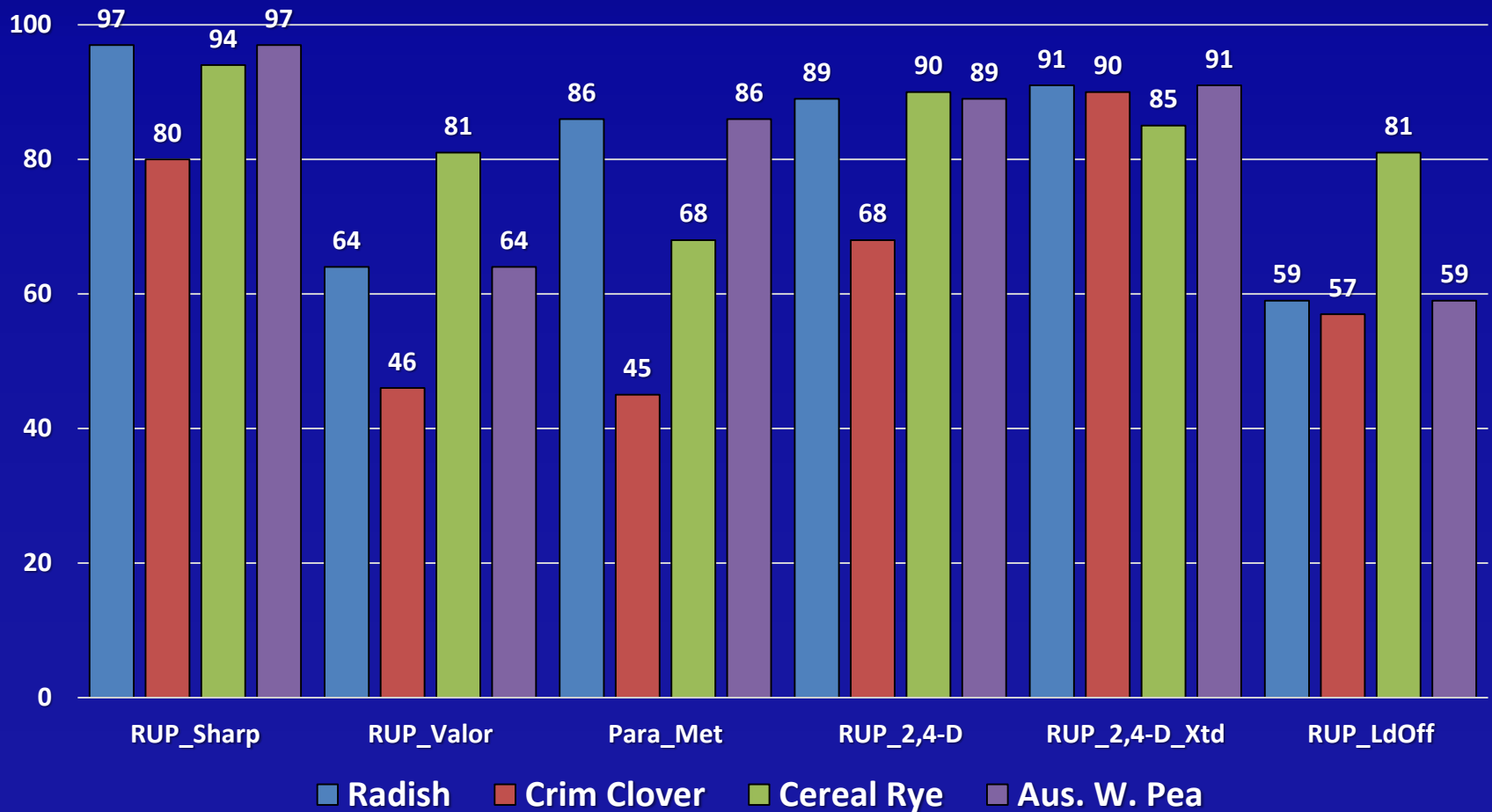
35 DAT

Cereal Rye Termination: NERS



35 DAT

Cover Crop Termination: NERS



RUP = 32, Sharpen = 1 oz/a Leadoff = 1.5 oz/a
2,4-D LV4 = 34 or 25 oz/a, Xtendimax = 11 oz/a

Take Home Points

Study 1

- For legume cover crop, consistent control was achieved when dicamba was in the mix. 2,4-D was good on hairy vetch.
- Elevore and 2,4-D weaker on legumes compared to dicamba.
- Mix of Elevore at 3/4 oz/a + 2,4-D at 16 oz/a provide similar control of legumes as dicamba.
- Hairy vetch and winter pea were easier to control than crimson clover.

• Study 2

- For crimson clover control was better when herbicides were applied in early February.
- Roundup PowerMax + Sharpen or 2,4-D + Xtendimax provided good control of radish, crimson clover, Austrian w. pea, hairy vetch and cereal rye.

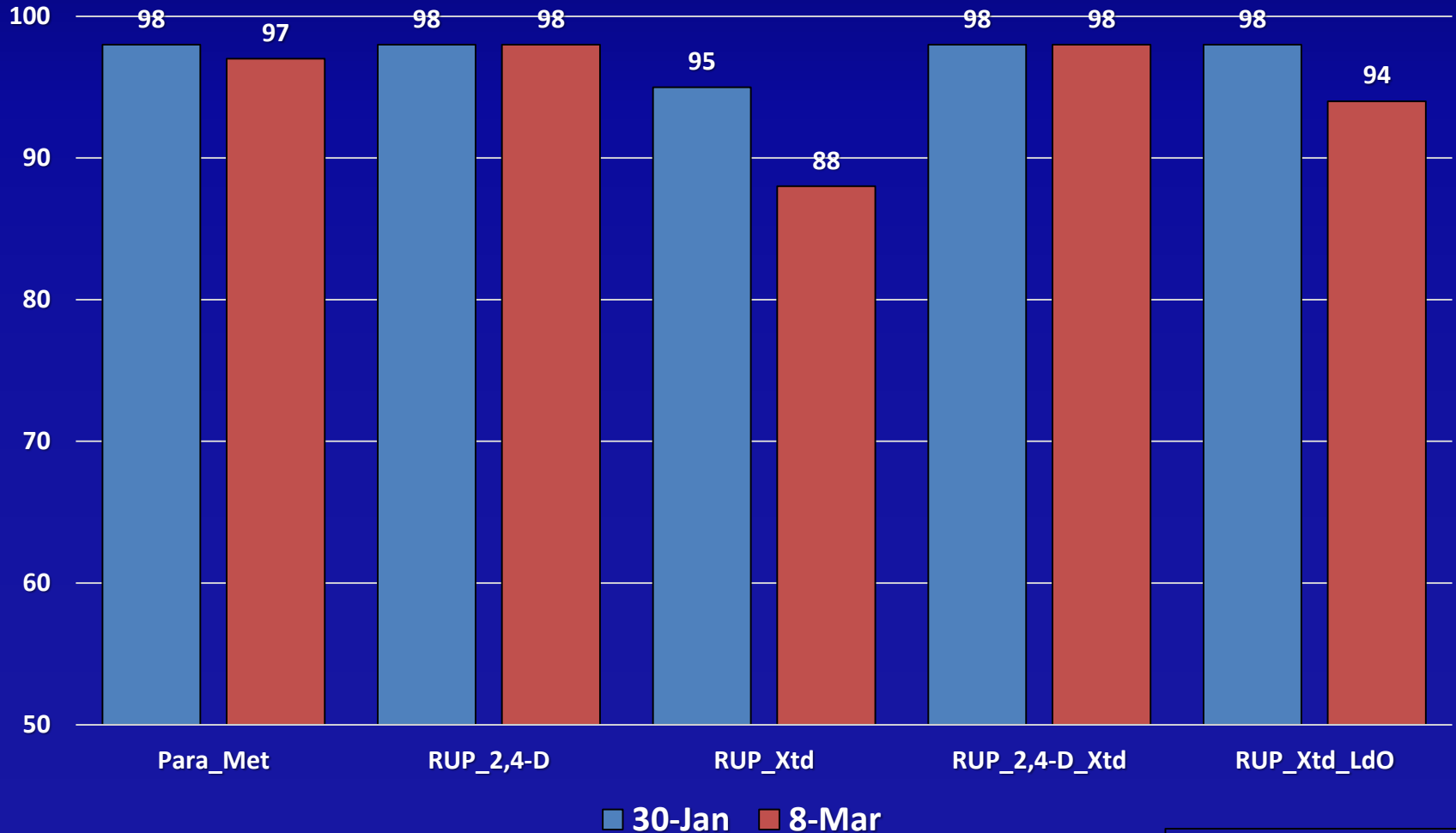
Take Home Points

- For cereals, glyphosate provided consistent control of cereals.
 - Higher rates of glyphosate should be used
 - 32 oz/a (1.4 lb ai/a) of a 5.5 lb ai/gal product
 - 44 oz/a of a 4 lb ai/gal product
- Gramoxone treatments did not provide consistent control across cereals.
- Roundup PowerMax + Sharpen or 2,4-D + Xtendimax provided good control of radish, crimson clover, Austrian w. pea, hairy vetch and cereal rye.
 - Roundup PowerMax + 2,4-D did not adequately control crimson clover.

MRRS Termination Trials



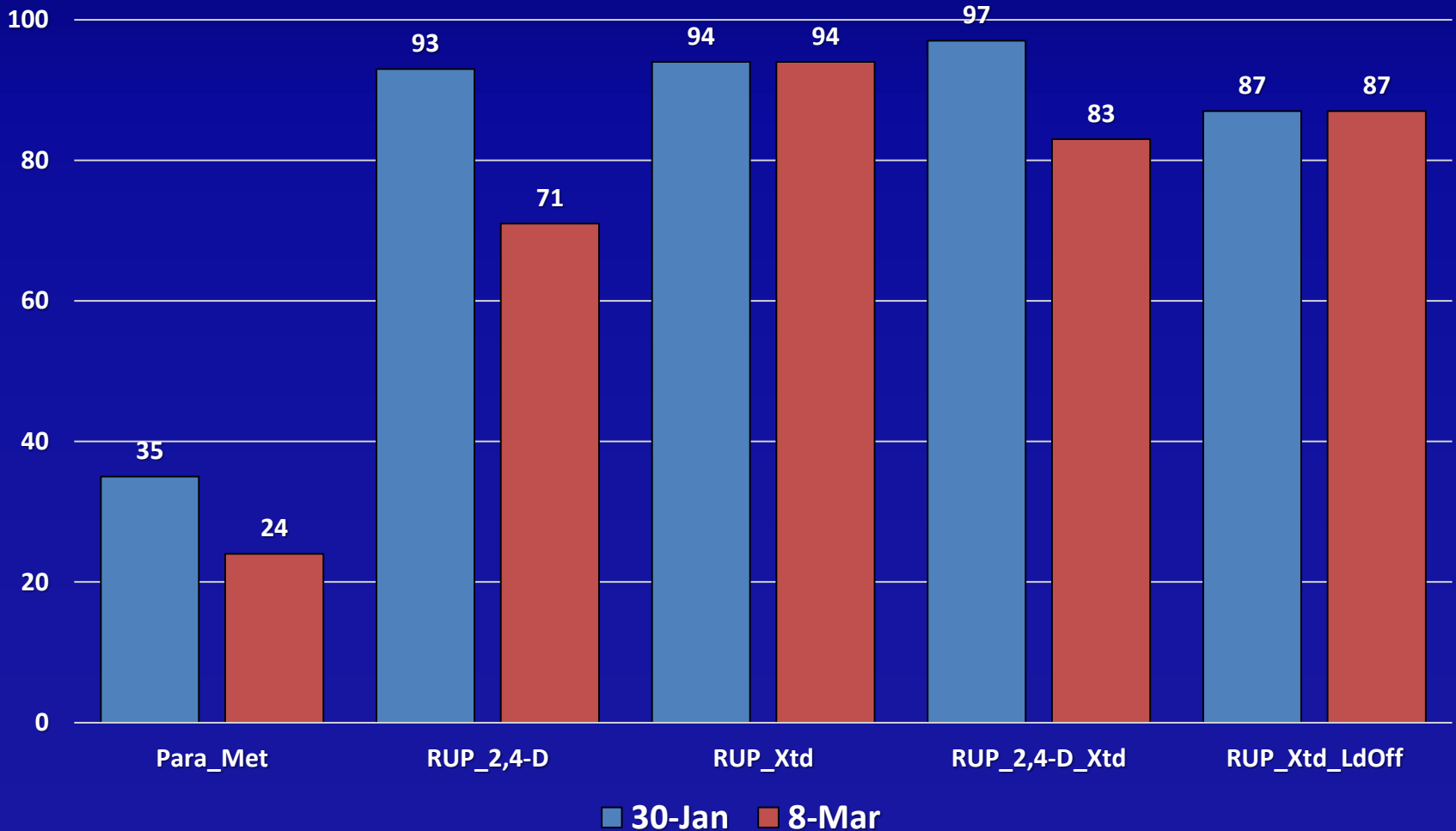
Tillage Radish Termination: MRRS



37 DAT – Jan 30
41 DAT – March 8

RUP = 32, Paraquat = 48 oz/a, Metribuzin 6 oz/a
Leadoff = 1.5 oz/a, 2,4-D LV4 = 34 or 25 oz/a, Xtendimax = 22 or 11 oz/a

Crim. Clover Termination: MRRS

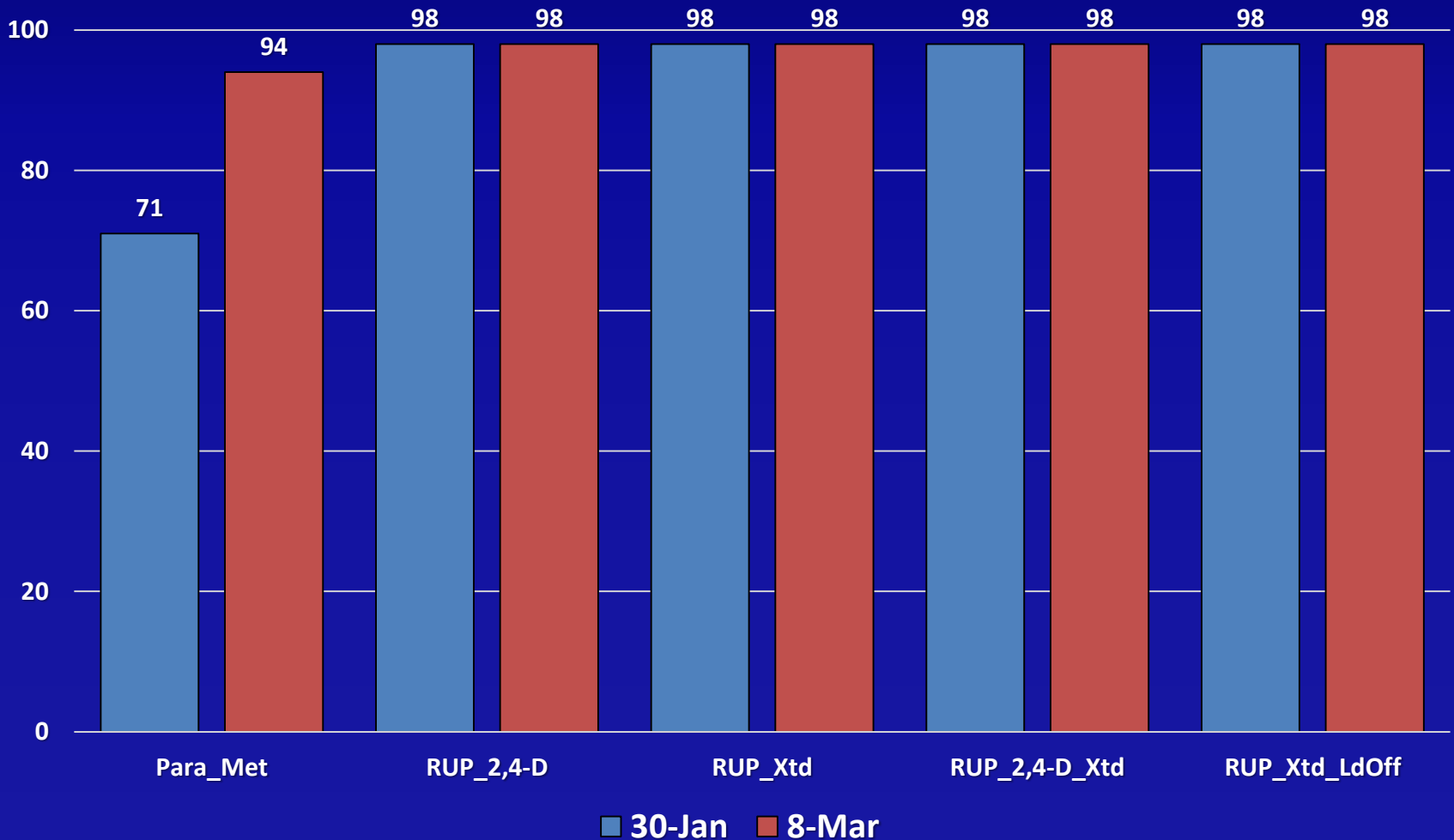


37 DAT – Jan 30
41 DAT – March 8

RUP = 32, Paraquat = 48 oz/a, Metribuzin 6 oz/a

Leadoff = 1.5 oz/a, 2,4-D LV4 = 34 or 25 oz/a, Xtendimax = 22 or 11 oz/a

Hairy Vetch Termination: MRRS

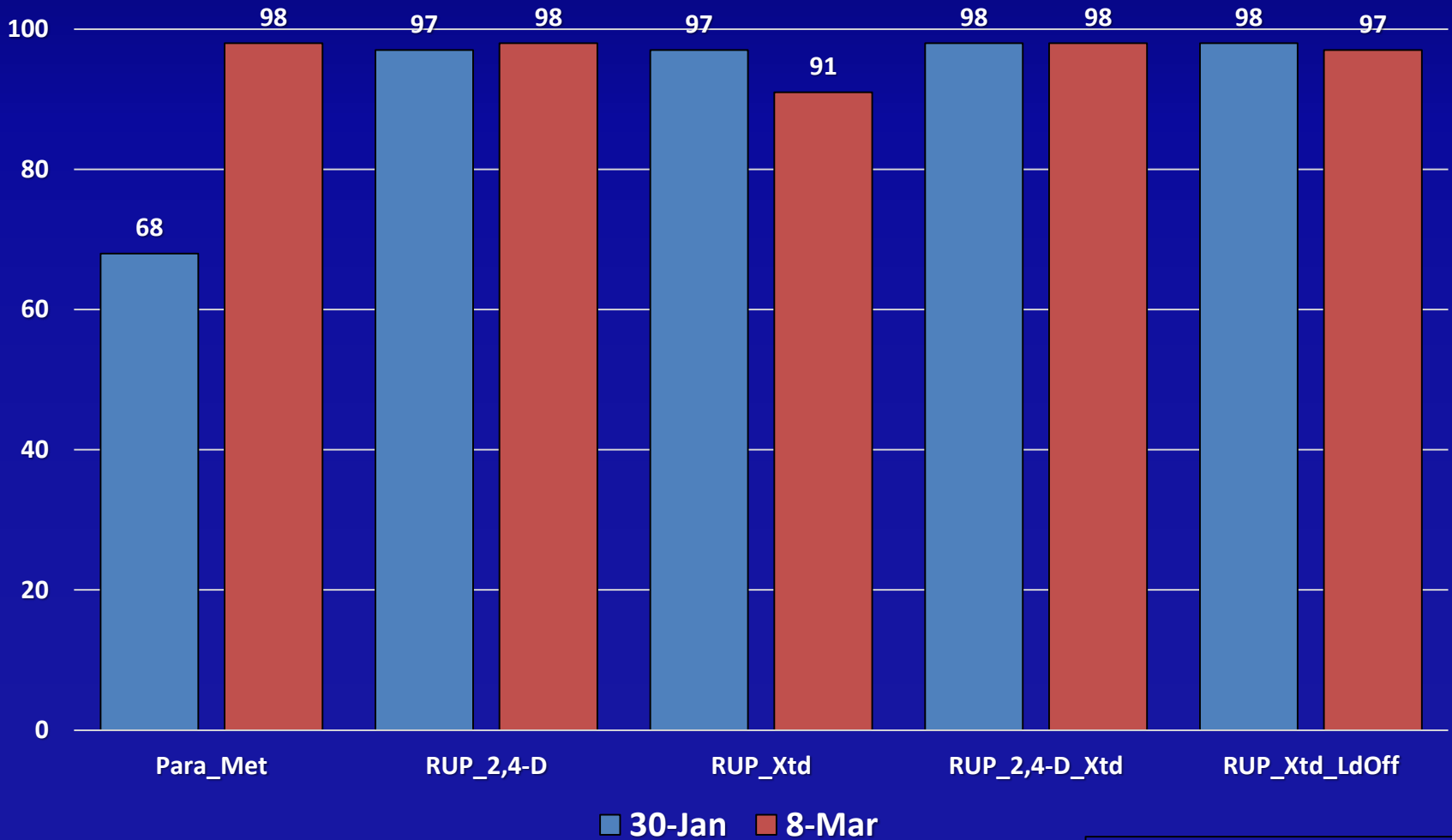


37 DAT – Jan 30
41 DAT – March 8

RUP = 32, Paraquat = 48 oz/a, Metribuzin 6 oz/a

Leadoff = 1.5 oz/a, 2,4-D LV4 = 34 or 25 oz/a, Xtendimax = 22 or 11 oz/a

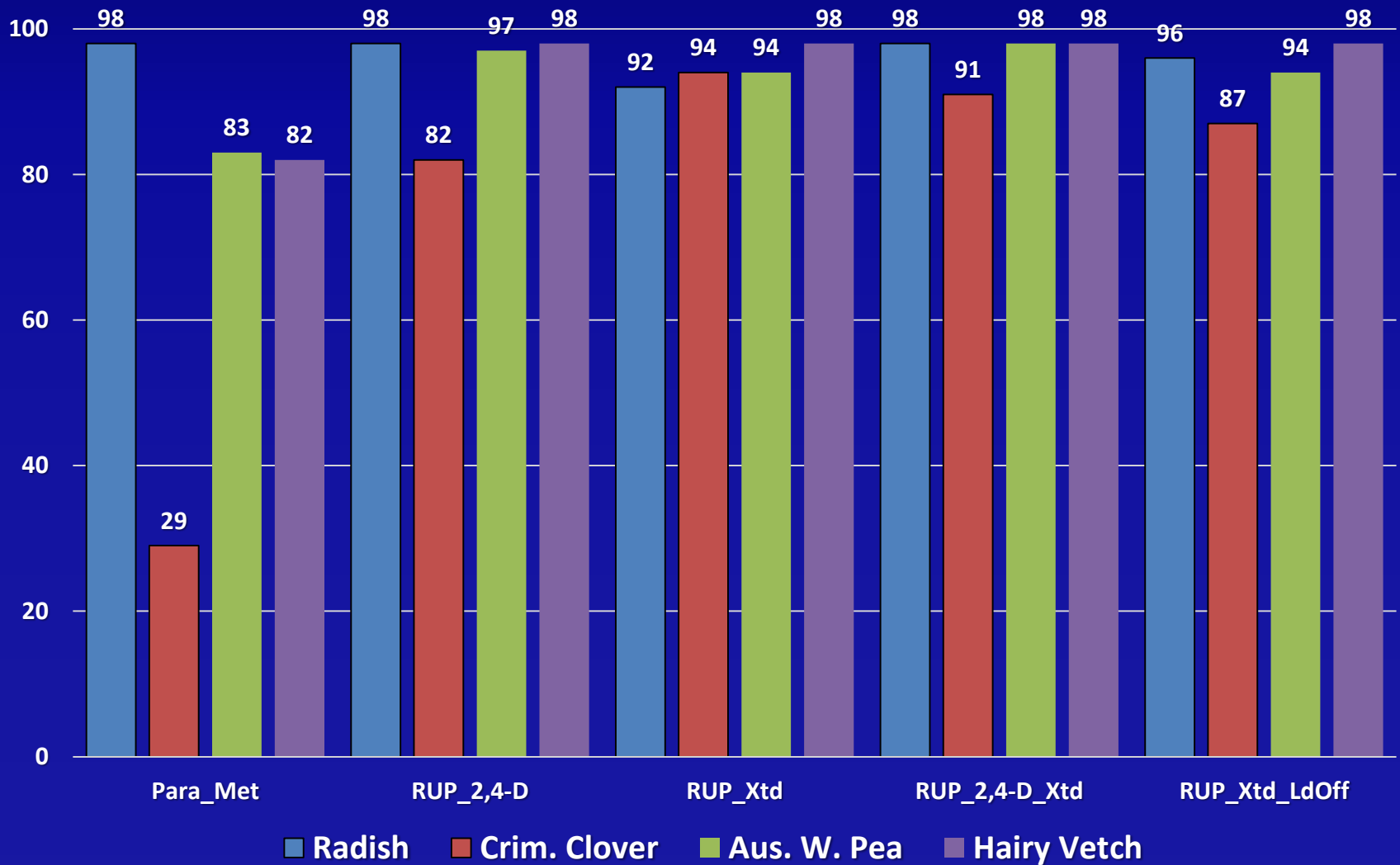
Aus. W. Pea Termination: MRRS



37 DAT – Jan 30
41 DAT – March 8

RUP = 32, Paraquat = 48 oz/a, Metribuzin 6 oz/a
Leadoff = 1.5 oz/a, 2,4-D LV4 = 34 or 25 oz/a, Xtendimax = 22 or 11 oz/a

Cover Crop Termination: MRRS



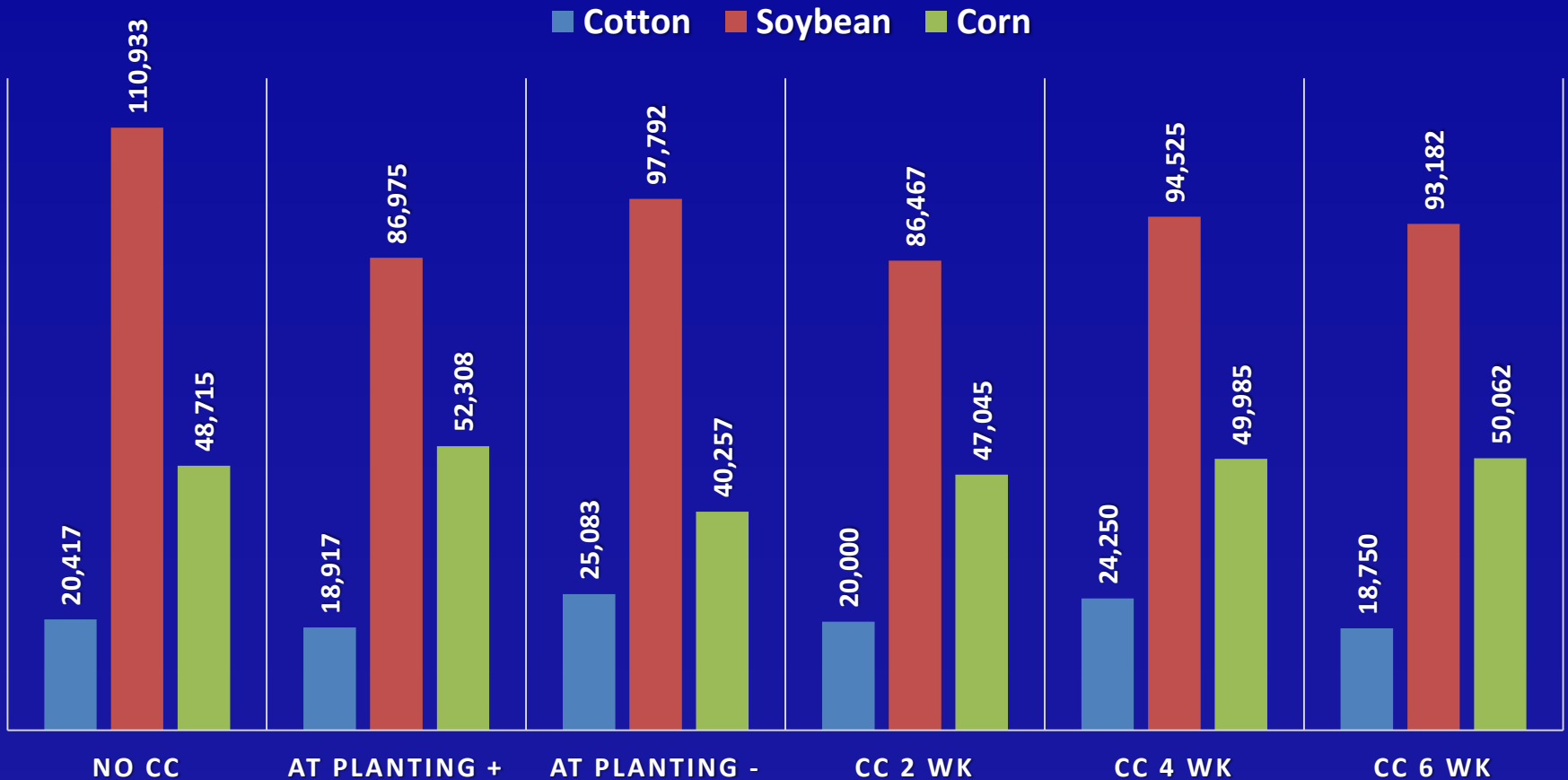
Take Home Points

- Crimson clover control, tended to be better when herbicides were applied Jan. 30 compared to March 8.
 - A.W. pea, hairy vetch, and tillage radish control was not greatly influenced by application timing when systemic herbicides were applied.
 - However, paraquat + metribuzin provided good control of A.W. pea and hairy vetch when applied in March.
- Paraquat plus metribuzin did not perform well on crimson clover.

Cover Crop Termination Timing

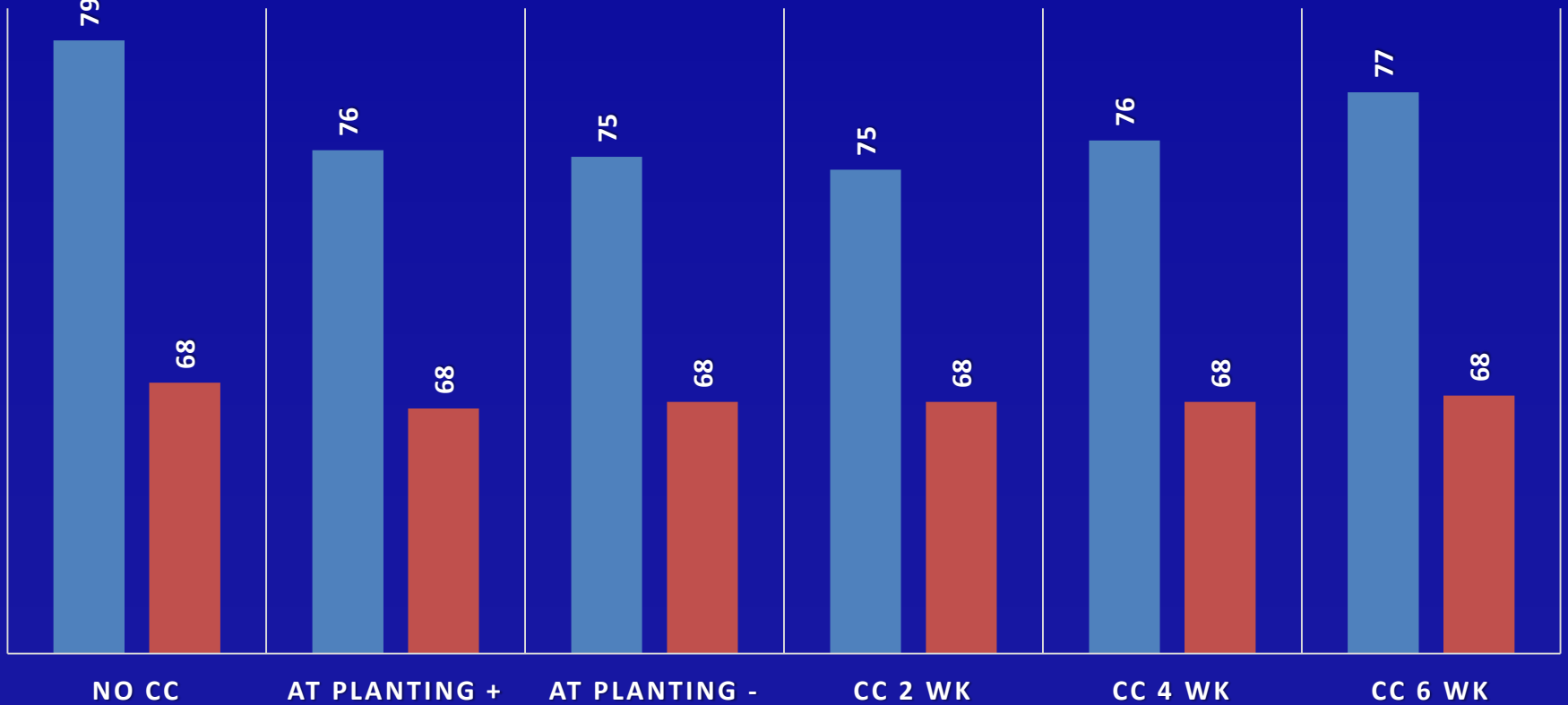


CROP STAND: PLANTS/ACRE



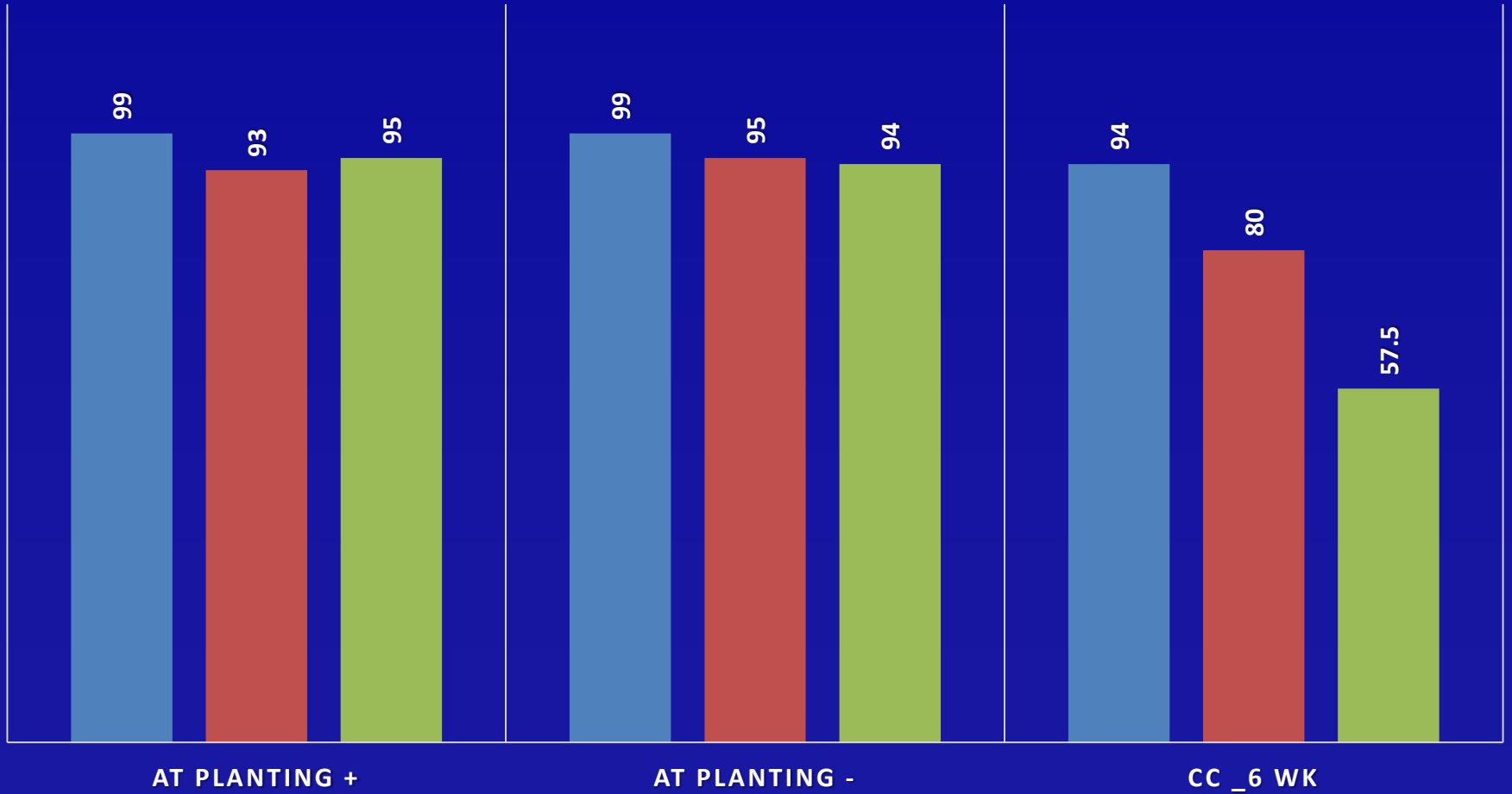
SOIL TEMPERATURE AT PLANTING

■ Cotton ■ Corn



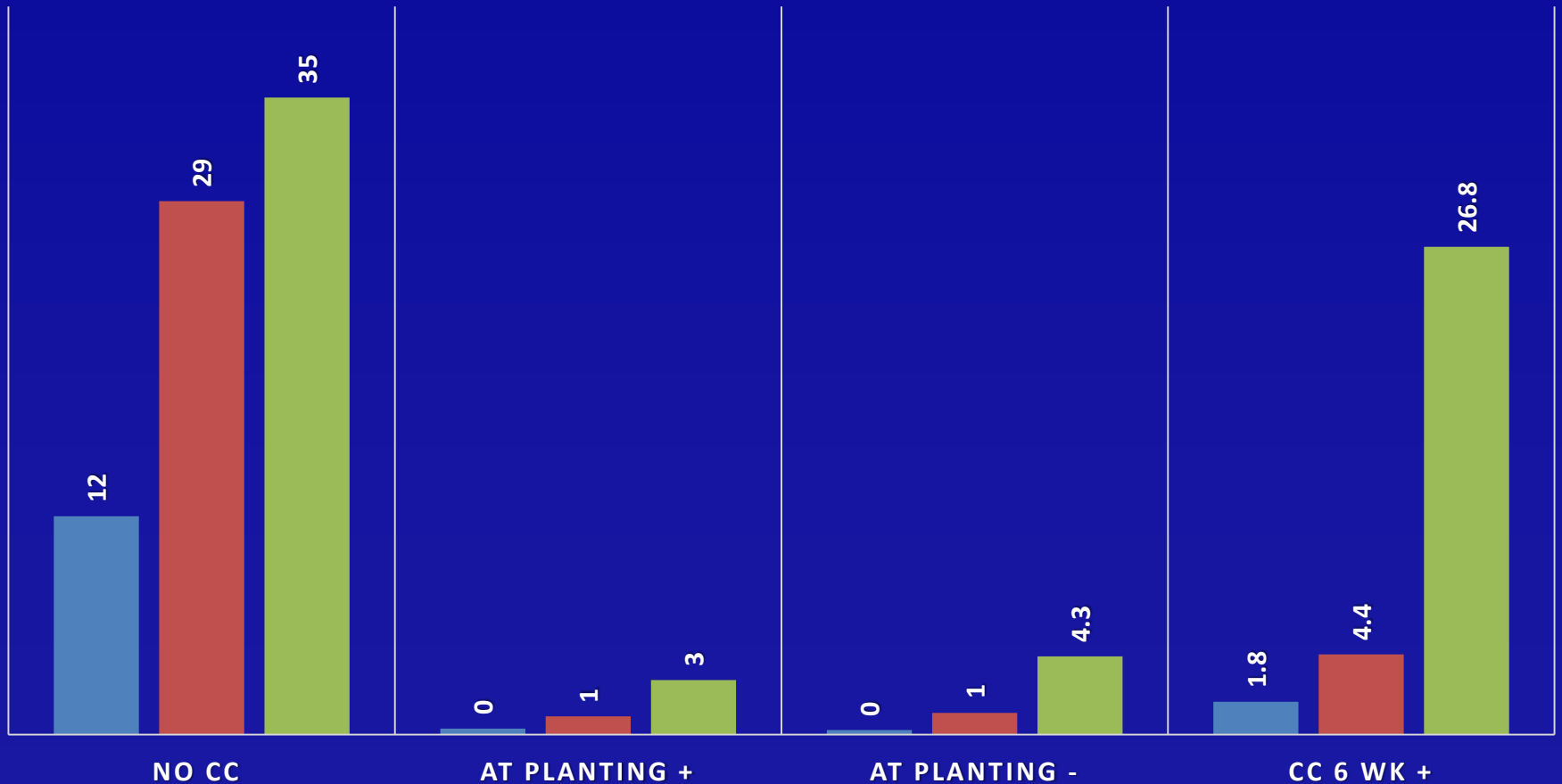
CC GROUND COVER AT TERMINATION

■ Cotton ■ Soybean ■ Corn



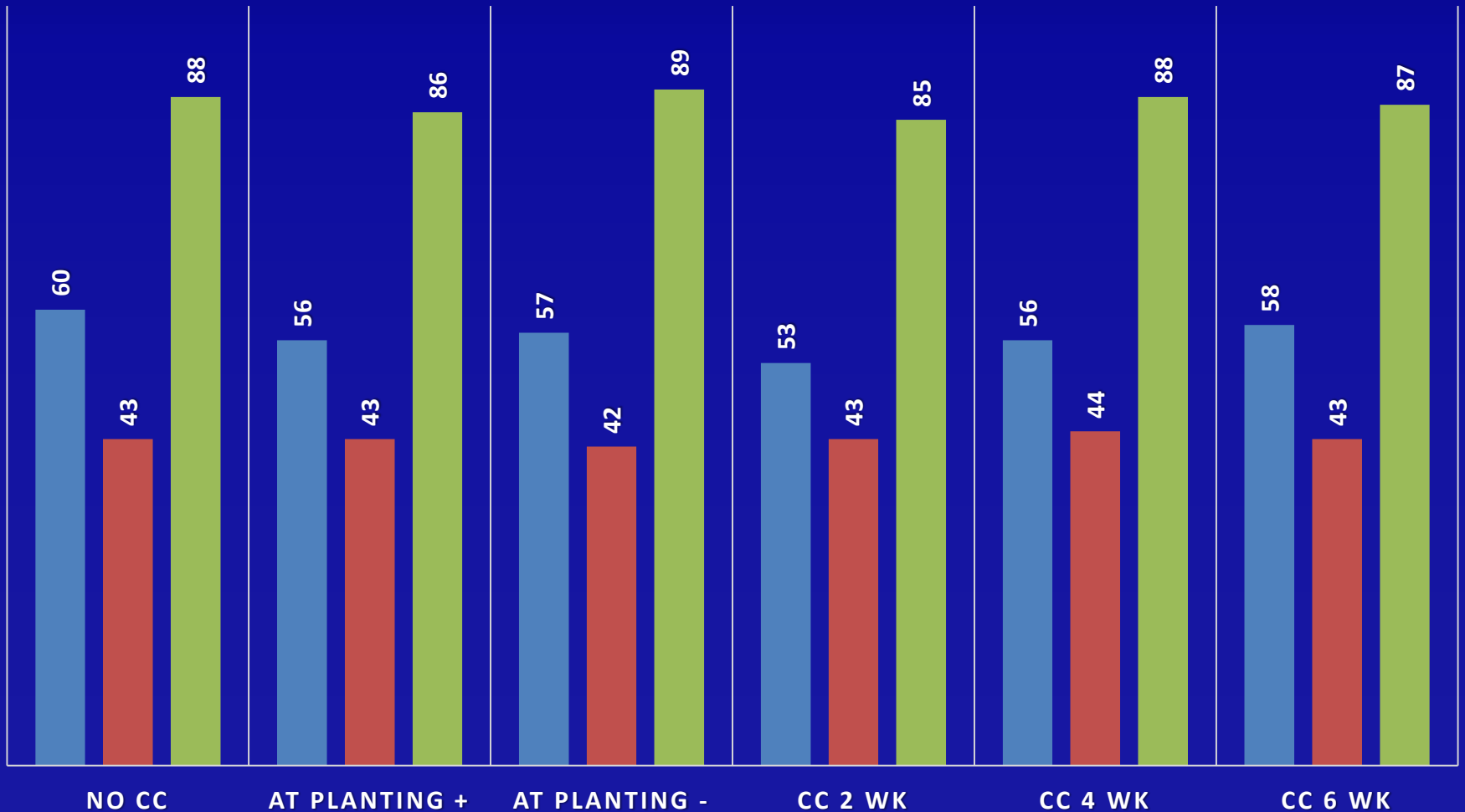
GROUND COVER AT TERMINATION

Cotton Soybean Corn



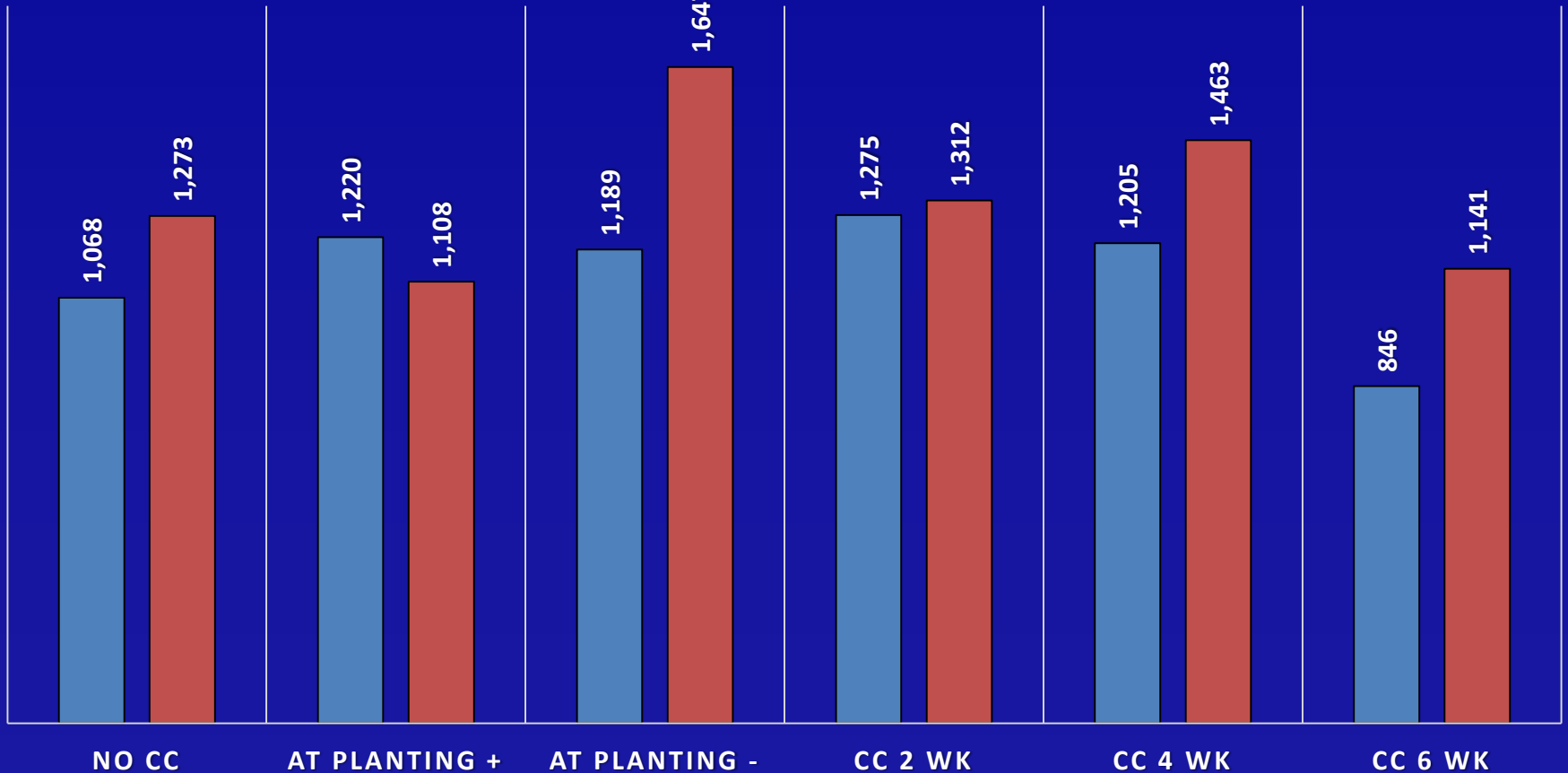
FINAL PLANT HEIGHTS (INCHES)

■ Cotton ■ Soybean ■ Corn



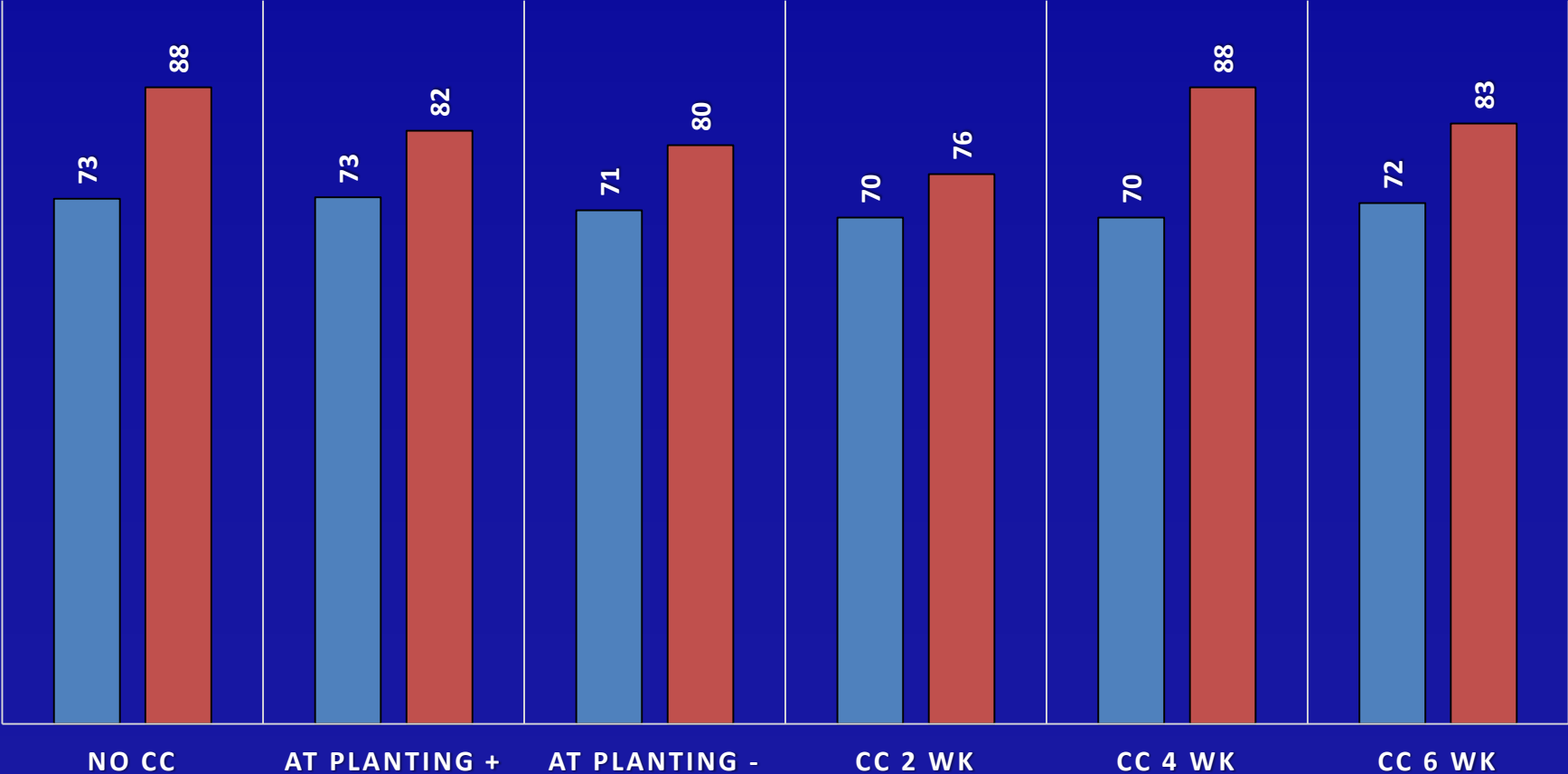
COTTON YIELD

■ Minimum-Till ■ Conventional-Till



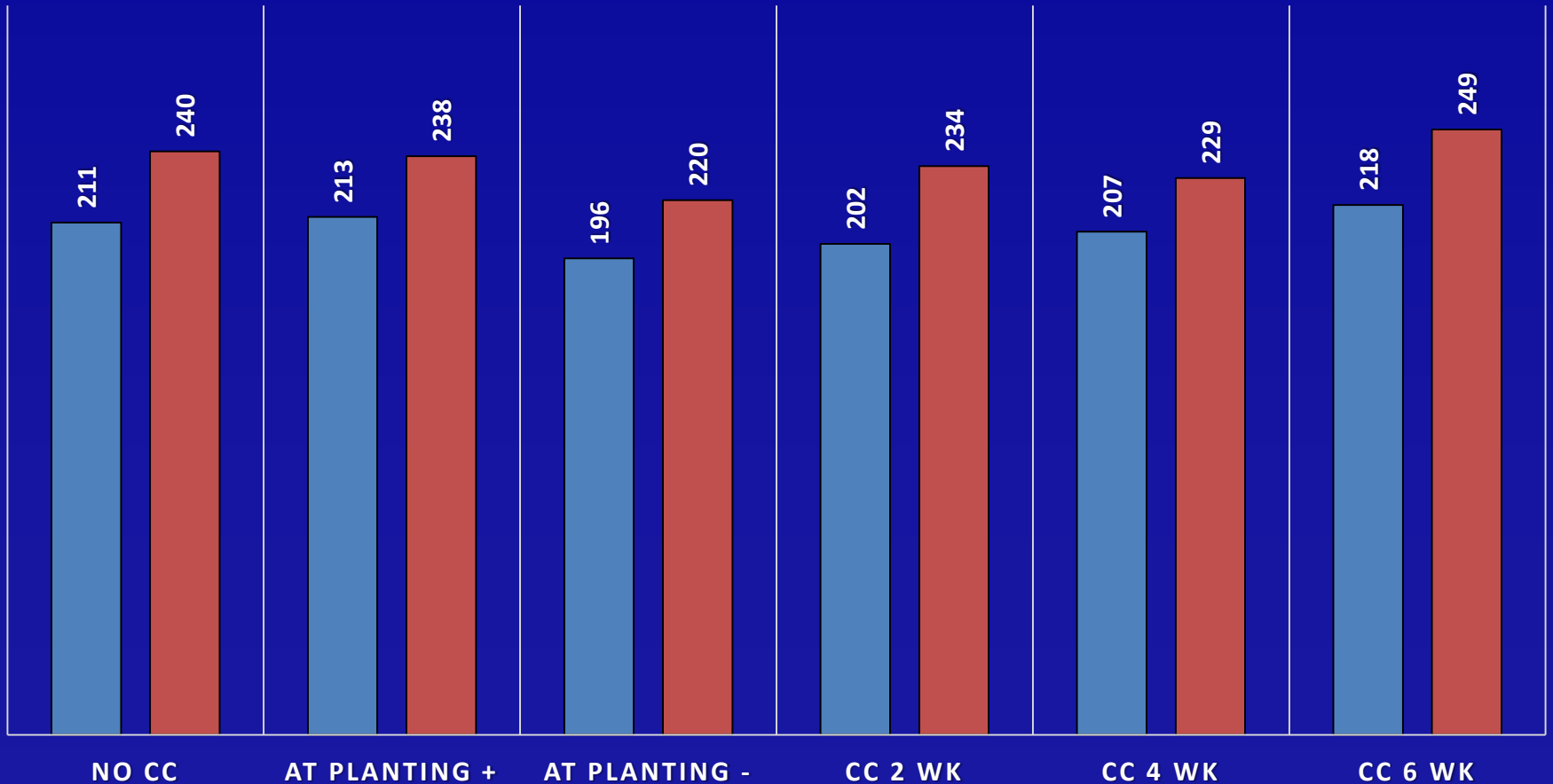
SOYBEAN YIELD

■ Minimum-Till ■ Conventional-Till



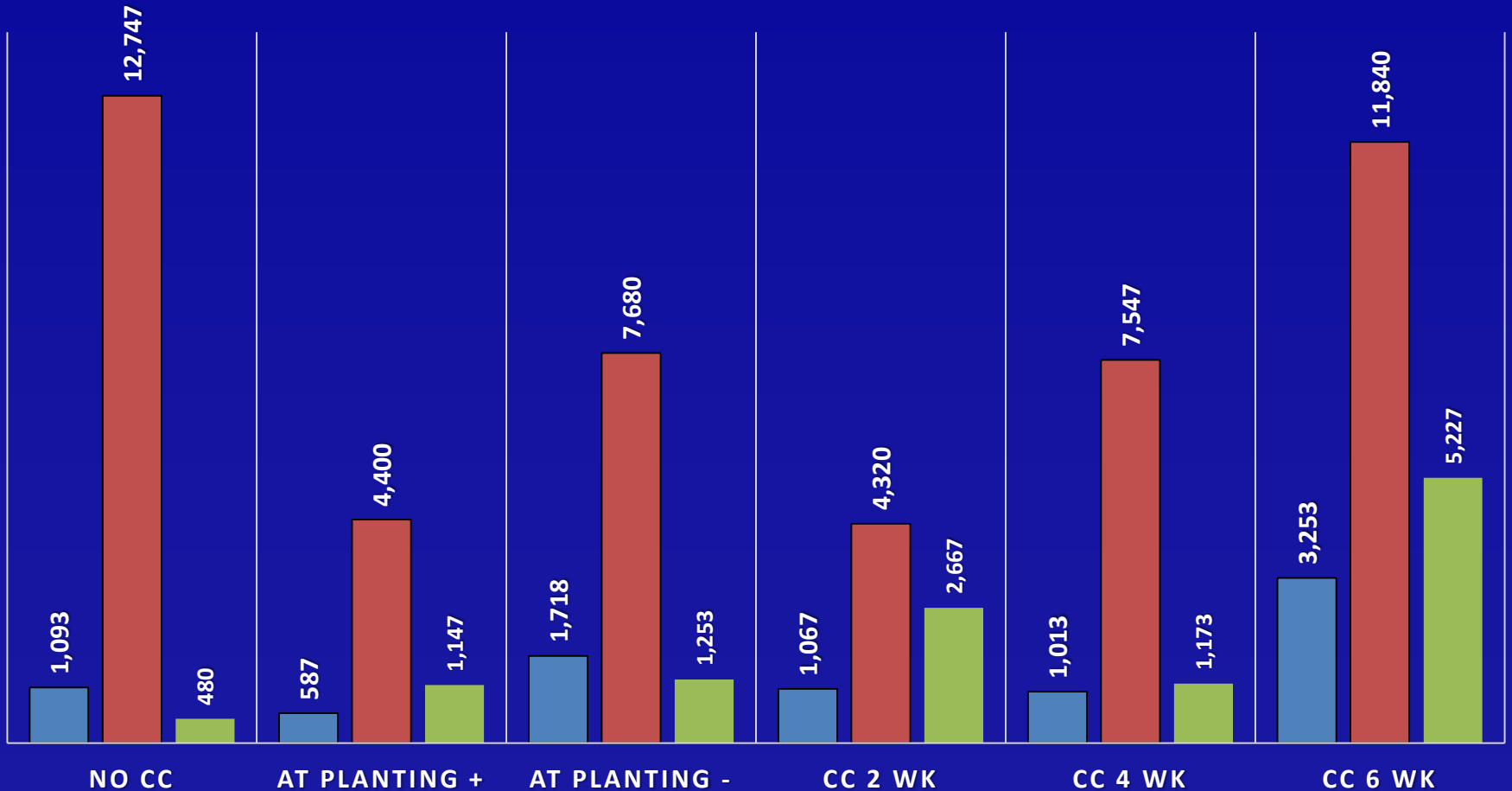
CORN YIELD

■ Minimum-Till ■ Conventional-Till



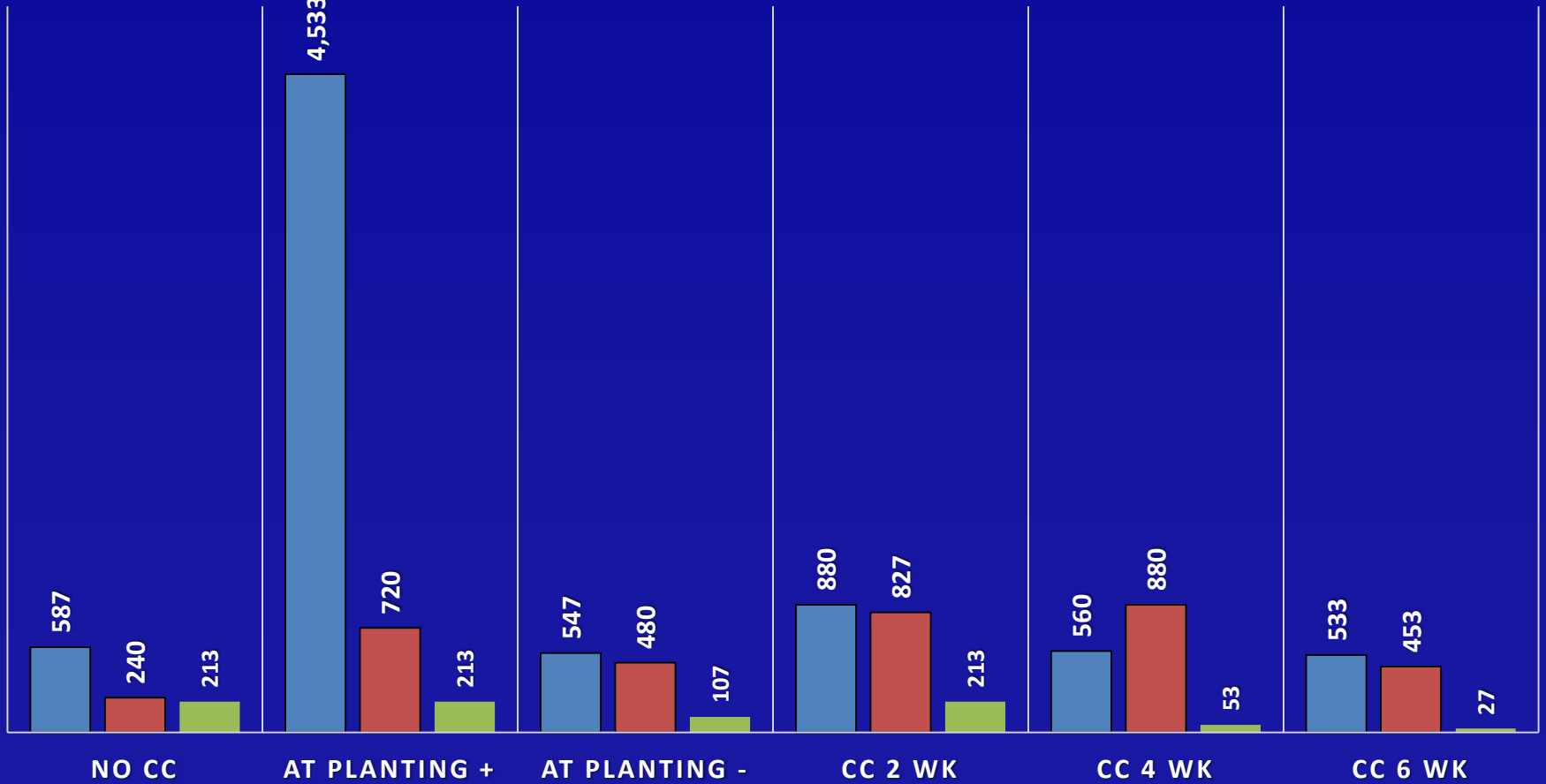
RENIFORM NEMATODE

Cotton Soybean Corn



ROOTKNOT NEMATODE

Cotton Soybean Corn



Take Away Points

- If you have not been able to terminate cover crop yet, don't panic.
- Timing of cover crop termination had minimal affect on final crop plant stand or plant height, nematode numbers, or crop yield.
- Soil temperatures at-planting were cooler in cover crop compared to no-cover crop.
- Winter weeds pressure was significantly reduce by cover crops. Weed pressure was reduced the later the cover crop was terminated.



Cover Crop Termination and Termination Issues



Wheat Cover Crop East Carroll 2018

About 21 DAT with 32 oz/a Roundup PowerMax + 1.5 oz Leadoff and 16 oz 2,4-D

Also had calls on Cereal Rye Control Failures





RUP PM 22 oz



RUP PM 32 oz

Wheat 28 DAT



Gramoxone 48 oz



Gramoxone 64 oz

Summary

- Growth stage is an important factor in glyphosate's performance on wheat and other cereals.
- In a 3 year study at the NERS the best and most consistent control of wheat was observed when glyphosate was applied to wheat after jointing and before boot stage or after wheat heading.
- Applications made to wheat prior to jointing resulted in variable control. Wheat re-growth.
- Applications made to wheat in the boot-stage to heading was not effective.
- Pay attention to temperatures 3 days before application and 3 days after application. Daily high air temperatures need to be above 55 °F and lows above 40 °F

Thanks for Your Attention. Questions?



LOUISIANA
SOYBEAN & GRAIN
Research & Promotion Board Report



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