

Weed Control Updates for Southwest North Dakota 2024

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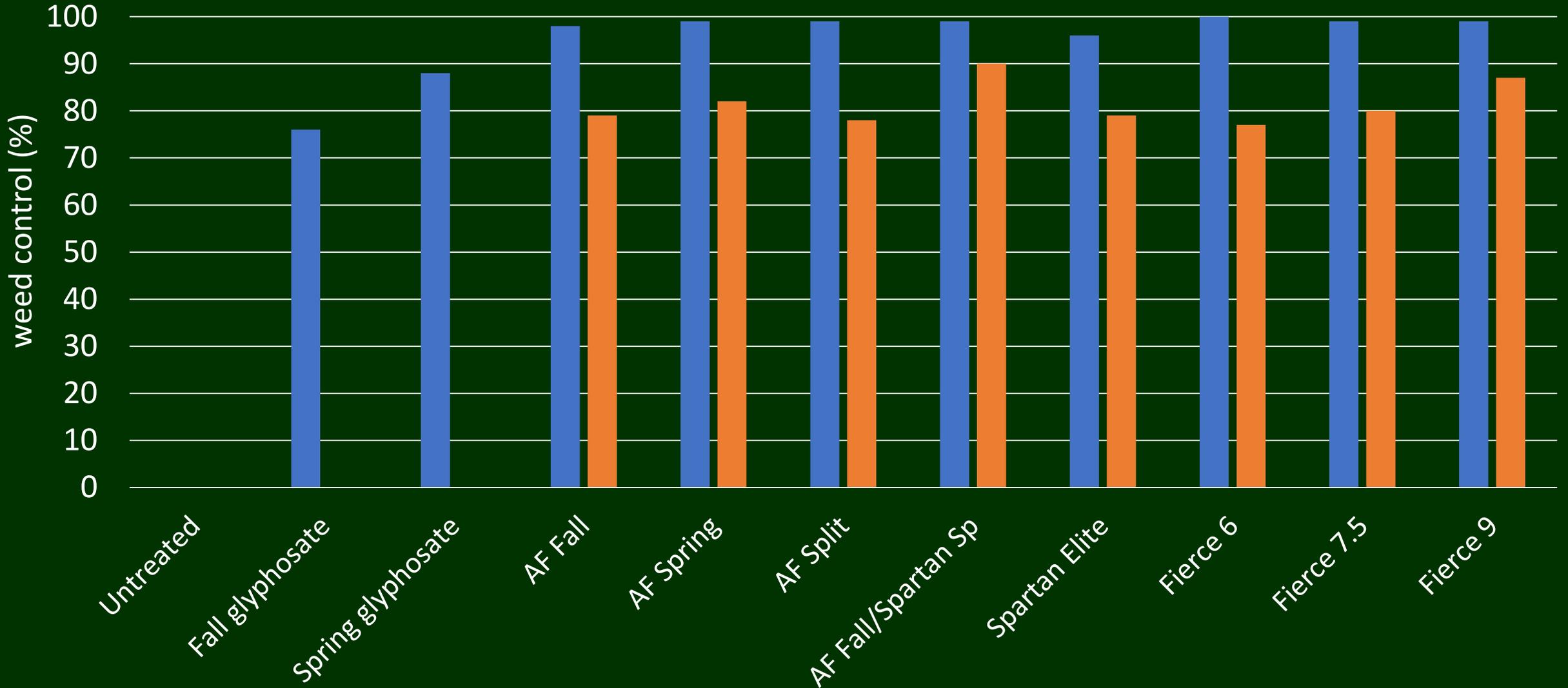
Fall vs Spring Herbicide Application in Field Pea

- Comparison of fall and spring PRE herbicide application for weed control in spring wheat
 - Weeds in trial included Downy/Japanese Brome, kochia, lambsquarters
 - Fall treatments applied on:
 - October 20, 2022
 - November 15, 2023
 - Spring treatments applied after planting on:
 - May 1, 2023
 - May 1, 2024
 - Herbicide treatments: all PREs were tank-mixed with glyphosate
 - Anthem Flex (4 oz/A): fall vs spring, and split application (2.5, 2 oz/A)
 - Anthem Flex (4 oz/A) in fall followed by Spartan Charge (5 oz/A) Spring PRE
 - Spartan Elite Spring PRE (32 oz/A)
 - Fierce EZ applied in fall (6, 7.5, and 9 oz/A)
 - Glyphosate alone: fall vs spring
 - Untreated

2023 Trial

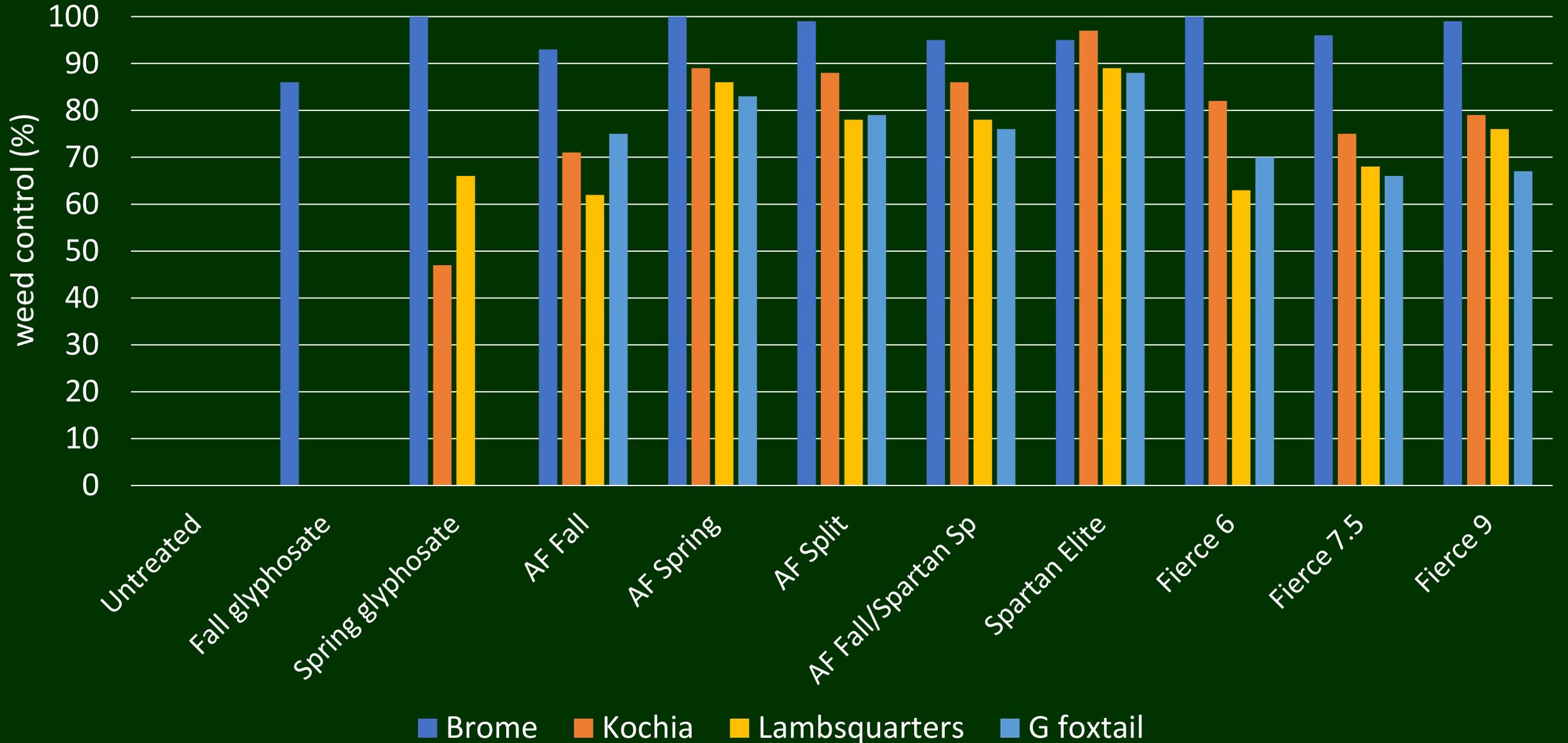
■ Brome ■ Buckwheat

LSD (0.05) = 7 (Brome), 6 (wild buckwheat)



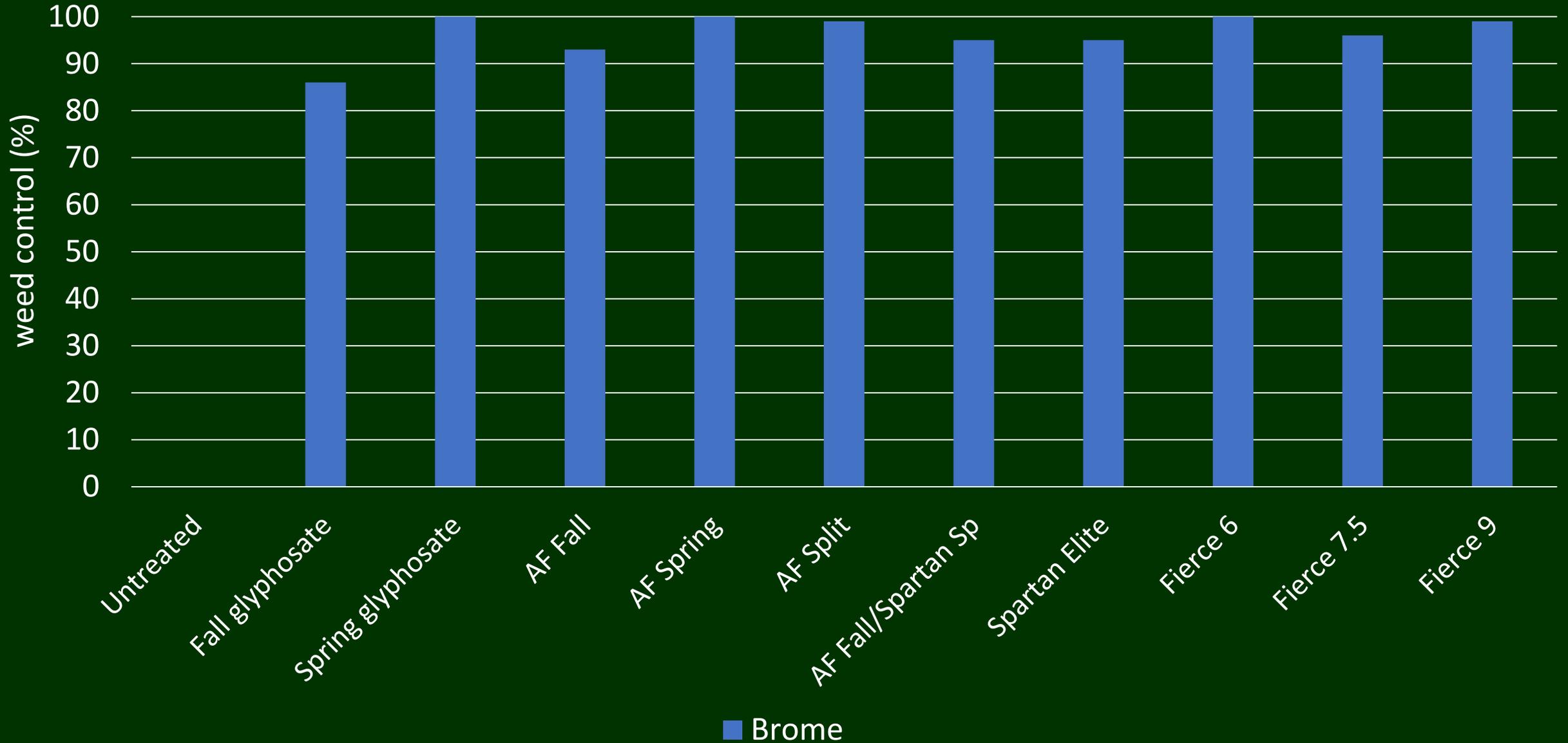
2024 Trial

LSD (0.05) = 4 (Brome), 9 (kochia), 14 (lambsquarters), 11 (green foxtail)



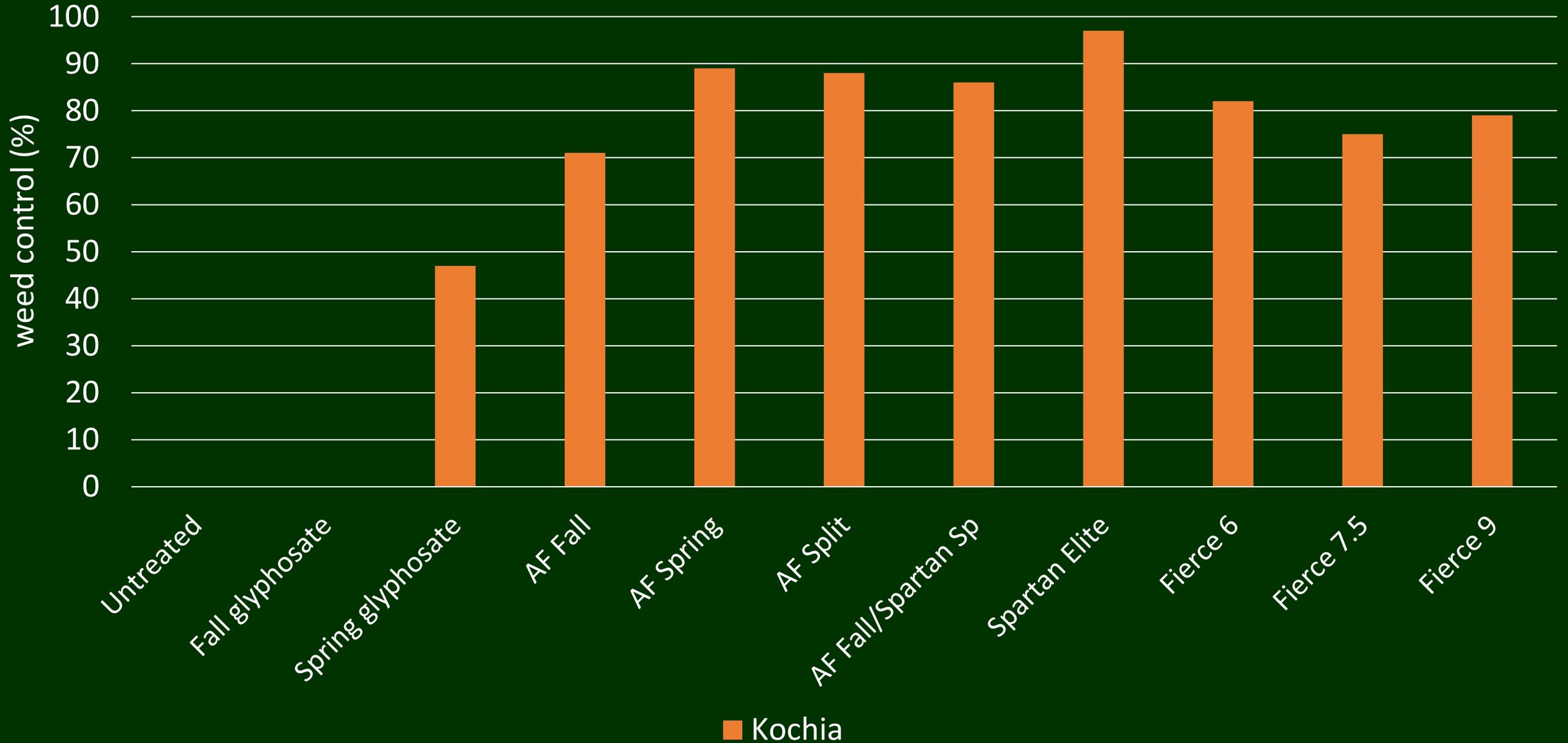
2024 Trial

LSD (0.05) = 4 (Brome), 9 (kochia), 14 (lambsquarters), 11 (green foxtail)



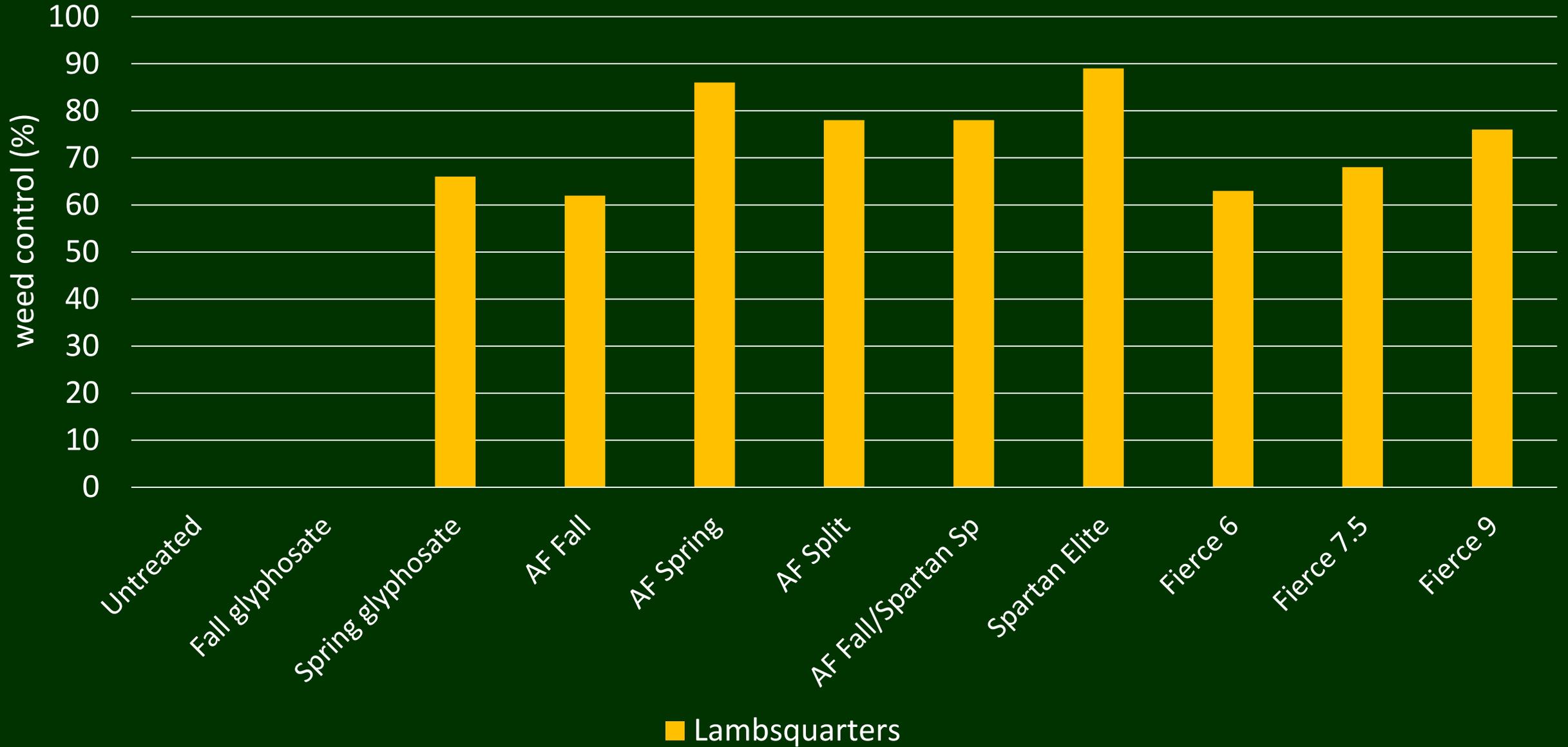
2024 Trial

LSD (0.05) = 4 (Brome), 9 (kochia), 14 (lambsquarters), 11 (green foxtail)



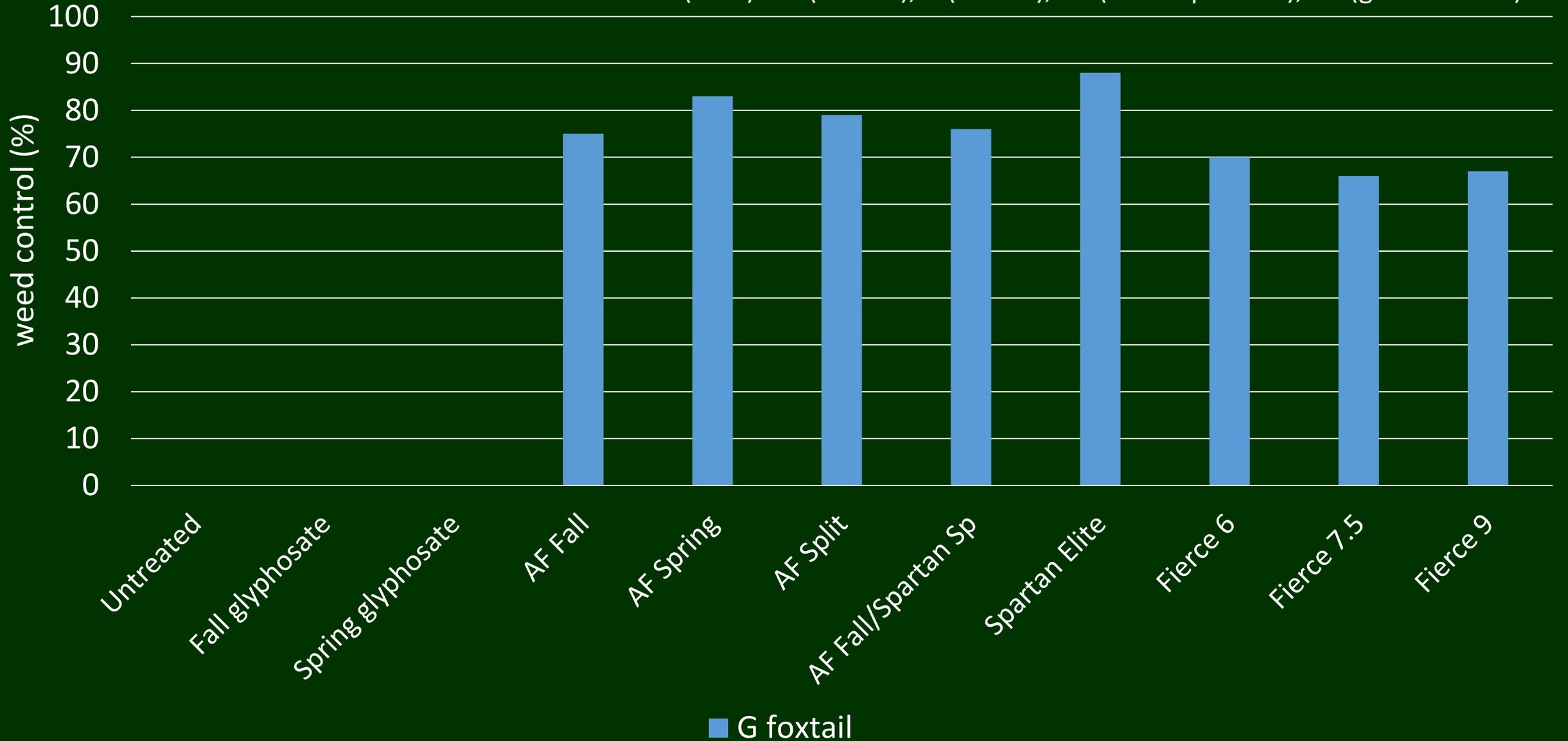
2024 Trial

LSD (0.05) = 4 (Brome), 9 (kochia), 14 (lambsquarters), 11 (green foxtail)



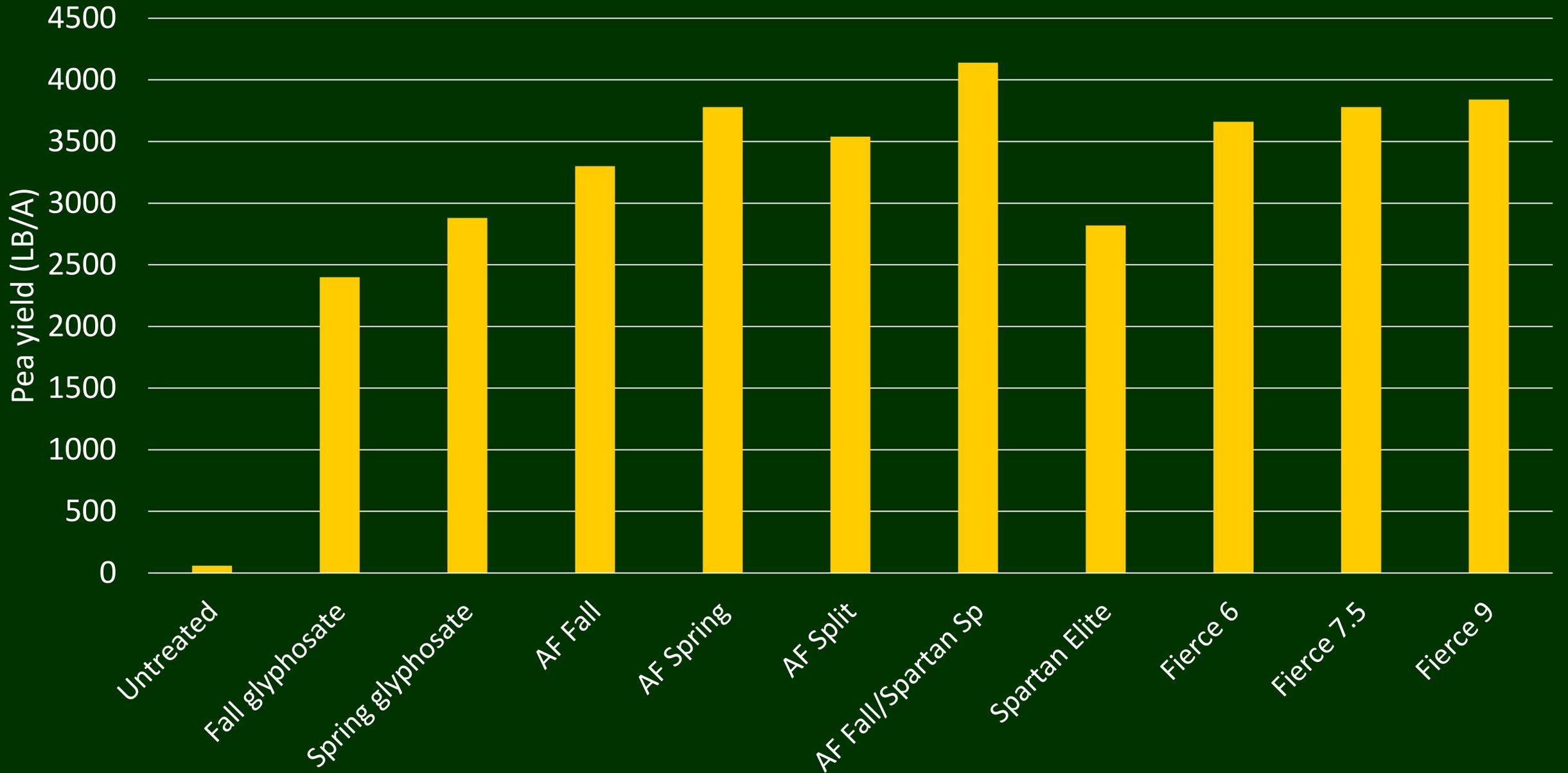
2024 Trial

LSD (0.05) = 4 (Brome), 9 (kochia), 14 (lambsquarters), 11 (green foxtail)



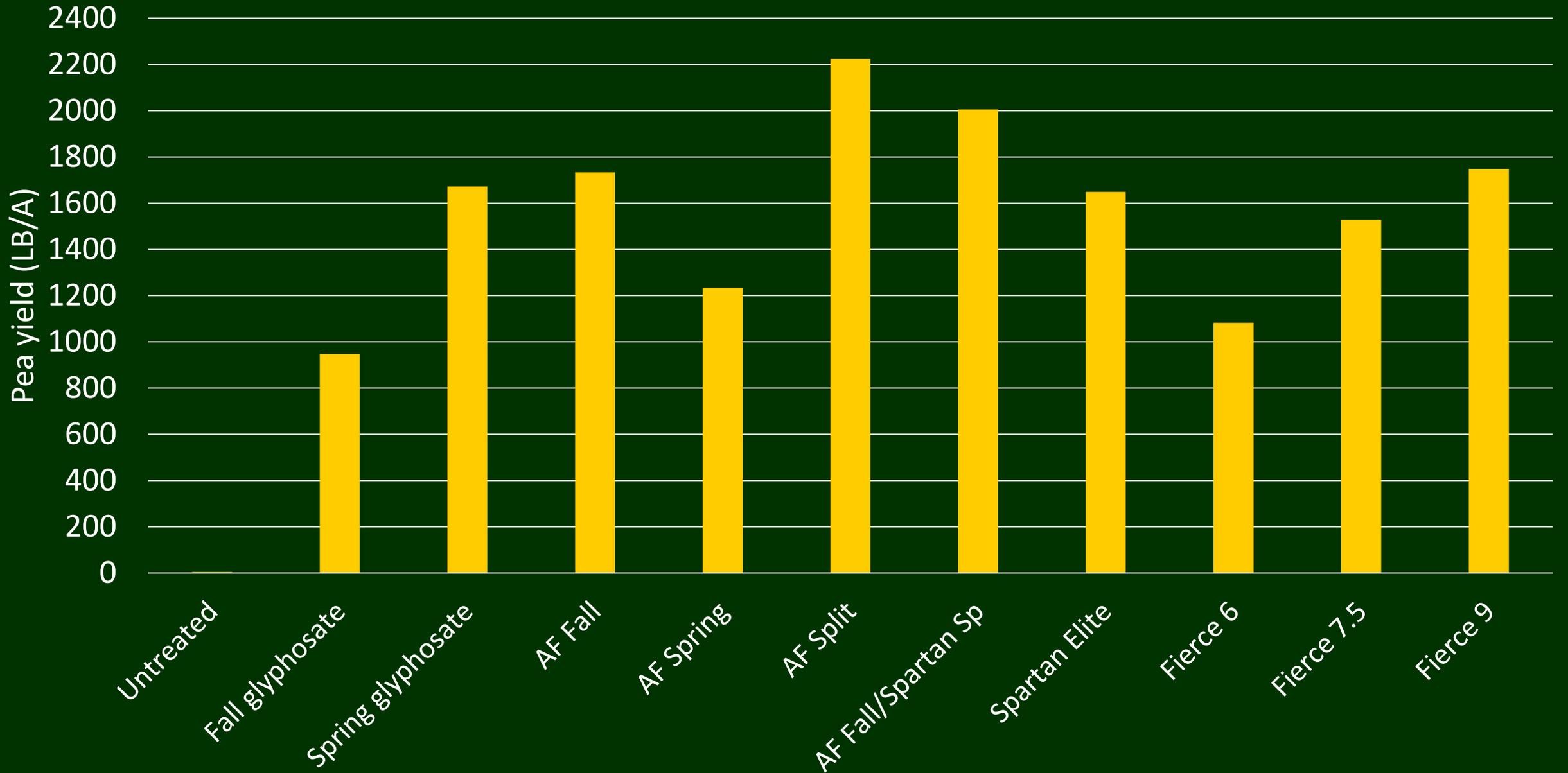
2023 Trial

LSD (0.05) = 789



2024 Trial

LSD (0.05) = 750



Bottom Line

- Downy and Japanese brome can be very competitive with peas if not controlled in the fall
- Fall and Spring PRE herbicides
 - Anthem Flex applied in the fall improved control of bromes
 - Splitting application (fall/spring) of Anthem Flex resulted in slightly better weed control than a single fall application, but less than with spring alone
 - Fall applications should be delayed until soil temps in 40s F
 - Spring applications need good rainfall to activate
 - In 2023: Rainfall of 5.43 inches in two weeks following application
 - In 2024: Rainfall of 0.47 inches in two weeks following application
 - Can't rely on fall application of Fierce alone for weed control, will need additional spring herbicide treatment
- Failing to control brome in the fall reduced pea yield

Comparison of POST Options for Kochia in Spring Wheat

- Spring wheat planted on May 1, 2024
- Wheat emerged on May 14
- POST herbicide treatment applied on June 7
 - Kochia:
 - 2.2-inch average height
 - Range of 0.5 to 3 inches
 - Population of 131 per square meter
 - Wild buckwheat
 - 2.3-inch average height
 - Range of 1 to 4 inches
 - Population of 84 per square meter
 - Tractor-mounted sprayer
 - 10 gal/acre
 - 4.2 mph

Comparison of POST options for Kochia in Spring Wheat

Herbicide Treatment		Rate	
Active ingredient	(oz ai/A)	Trade name	(oz product/A)
Fluroxypyr ⁴	2	Starane Ultra	5.6
Fluroxypyr ⁴ + bromoxynil ⁶	2 + 4	Starane + Maestro 2EC	5.6 + 16
Fluroxypyr ⁴ + bromoxynil ⁶	2 + 6	Starane + Maestro 2EC	5.6 + 24
Fluroxypyr ⁴ + bromoxynil ⁶	2 + 8	Starane + Maestro 2EC	5.6 + 32
Fluroxypyr ⁴ + bromoxynil ⁶ + pyrasulfotole ²⁷	1 + 2.4 + 0.45	Huskie FX	13.5
Bromoxynil ⁶ + pyrasulfotole ²⁷ + thien carbazone ²	3.5 + 0.45 + 0.068	Huskie Complete	13.7
Fluroxypyr ⁴ + bromoxynil ⁶ + flucarbazone ²	1.56 + 4.16 + 0.44	Batalium Amped	16
Bromoxynil ⁶ + bicyclopyrone ²⁷	2.5 + 0.5	Talinor	13.7
Bromoxynil ⁶ + tolpyralate ²⁷	2.1 + 0.21	Tolvera	11
Fluroxypyr ⁴ + bromoxynil ⁶ + MCPA ⁴	1.3 + 3.3 + 3.3	Carnivore	16
Fluroxypyr ⁴ + bromoxynil ⁶ + MCPA ⁴	2 + 5 + 5	Carnivore	24
Bromoxynil ⁶ + MCPA ⁴	6 + 6	Bison	24
Bromoxynil ⁶ + MCPA ⁴ + fluroxypyr	6 + 6 + 1	Bison + Starane Ultra	24 + 2.8
Bromoxynil ⁶ + MCPA ⁴ + fluroxypyr	6 + 6 + 2	Bison + Starane Ultra	24 + 5.6

Comparison of POST options for Kochia in Spring Wheat

Herbicide Treatment			Kochia	Wild buckwheat
Active ingredient	(oz ai/A)	(oz product/A)	% Control at 14 DAT	
Fluroxypyr ⁴	2	5.6	72	60
Fluroxypyr ⁴ + bromoxynil ⁶	2 + 4	5.6 + 16	81	82
Fluroxypyr ⁴ + bromoxynil ⁶	2 + 6	5.6 + 24	92	88
Fluroxypyr ⁴ + bromoxynil ⁶	2 + 8	5.6 + 32	92	92
Fluroxypyr ⁴ + bromoxynil ⁶ + pyrasulfotole ²⁷	1 + 2.4 + 0.45	13.5	88	82
Bromoxynil ⁶ + pyrasulfotole ²⁷ + thienclazuron ²	3.5 + 0.45 + 0.068	13.7	88	81
Fluroxypyr ⁴ + bromoxynil ⁶ + flucarbazone ²	1.56 + 4.16 + 0.44	16	88	86
Bromoxynil ⁶ + bicyclopyrone ²⁷	2.5 + 0.5	13.7	84	81
Bromoxynil ⁶ + tolpyralate ²⁷	2.1 + 0.21	11	85	79
Fluroxypyr ⁴ + bromoxynil ⁶ + MCPA ⁴	1.3 + 3.3 + 3.3	16	86	85
Fluroxypyr ⁴ + bromoxynil ⁶ + MCPA ⁴	2 + 5 + 5	24	90	83
Bromoxynil ⁶ + MCPA ⁴	6 + 6	24	85	84
Bromoxynil ⁶ + MCPA ⁴ + fluroxypyr	6 + 6 + 1	24 + 2.8	93	88
Bromoxynil ⁶ + MCPA ⁴ + fluroxypyr	6 + 6 + 2	24 + 5.6	90	88
LSD (0.05)			7.7	6.0

Bottom Line

- Wheat can be very competitive with weeds
- Still many viable POST options for wild buckwheat and kochia control in spring wheat
 - Can't rely on fluroxypyr alone
 - Better to have at least 2 modes of action (3 is better)
 - Group 4 (growth regulators)
 - Group 6 (photosynthesis inhibitors)
 - Group 27 (pigment inhibitors)
 - Weed control was in 2024 reduced by droughty conditions
 - May need to use higher end of recommended rates
 - May need to increase spray volume; better coverage

Canada Thistle Control In Non-crop (Rangeland)

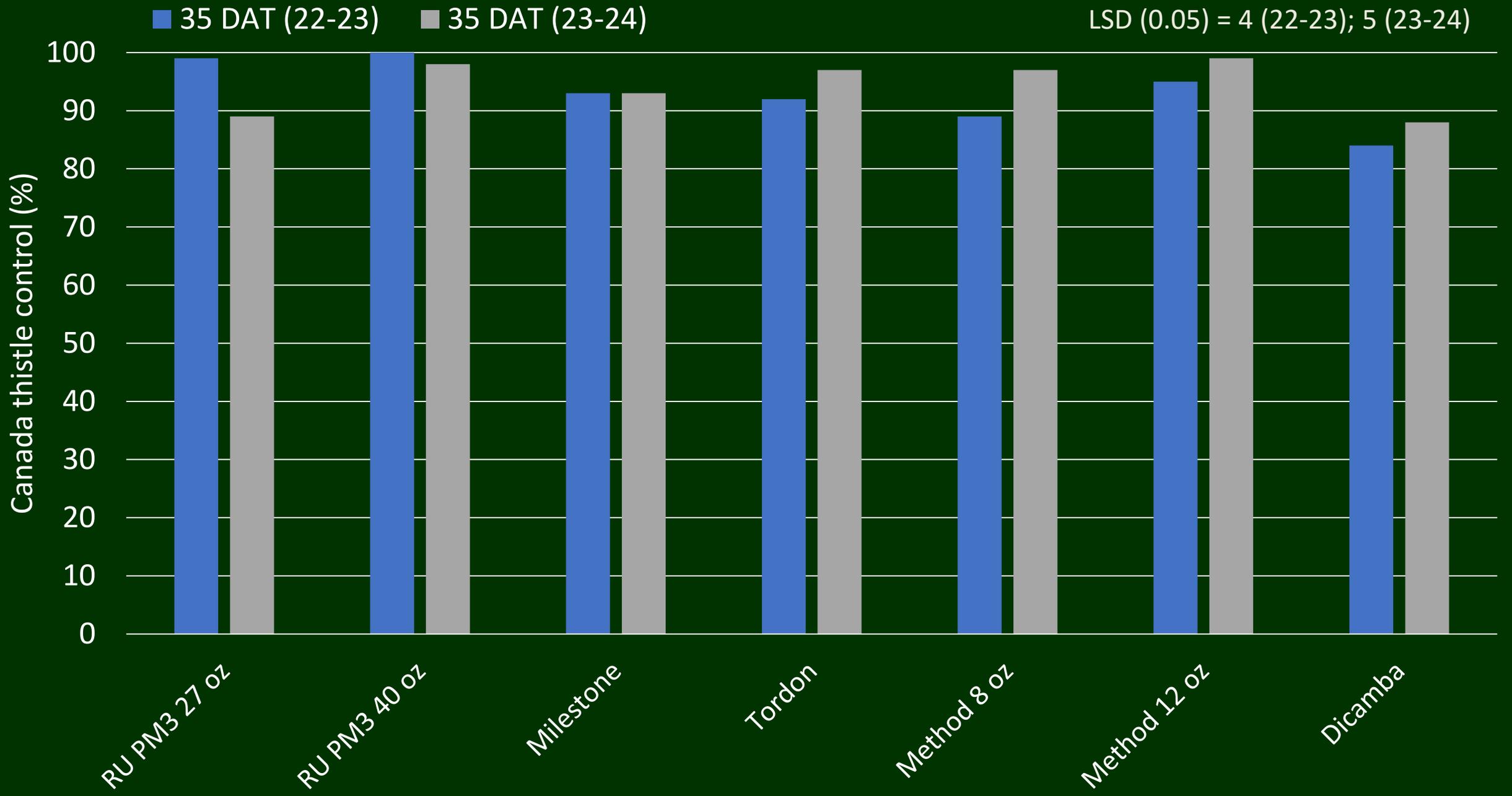


Canada thistle control (non-crop)

- Herbicide treatment applied on July 14, 2022; July 20, 2023
 - Field site was low-lying area in field used for upland game management
 - Canada thistle was in budding stage (prebloom)
 - Backpack sprayer
 - 20 gal/acre
 - 2.5 mph
 - Evaluations:
 - 35 days of treatment application
 - 1 year after treatment application

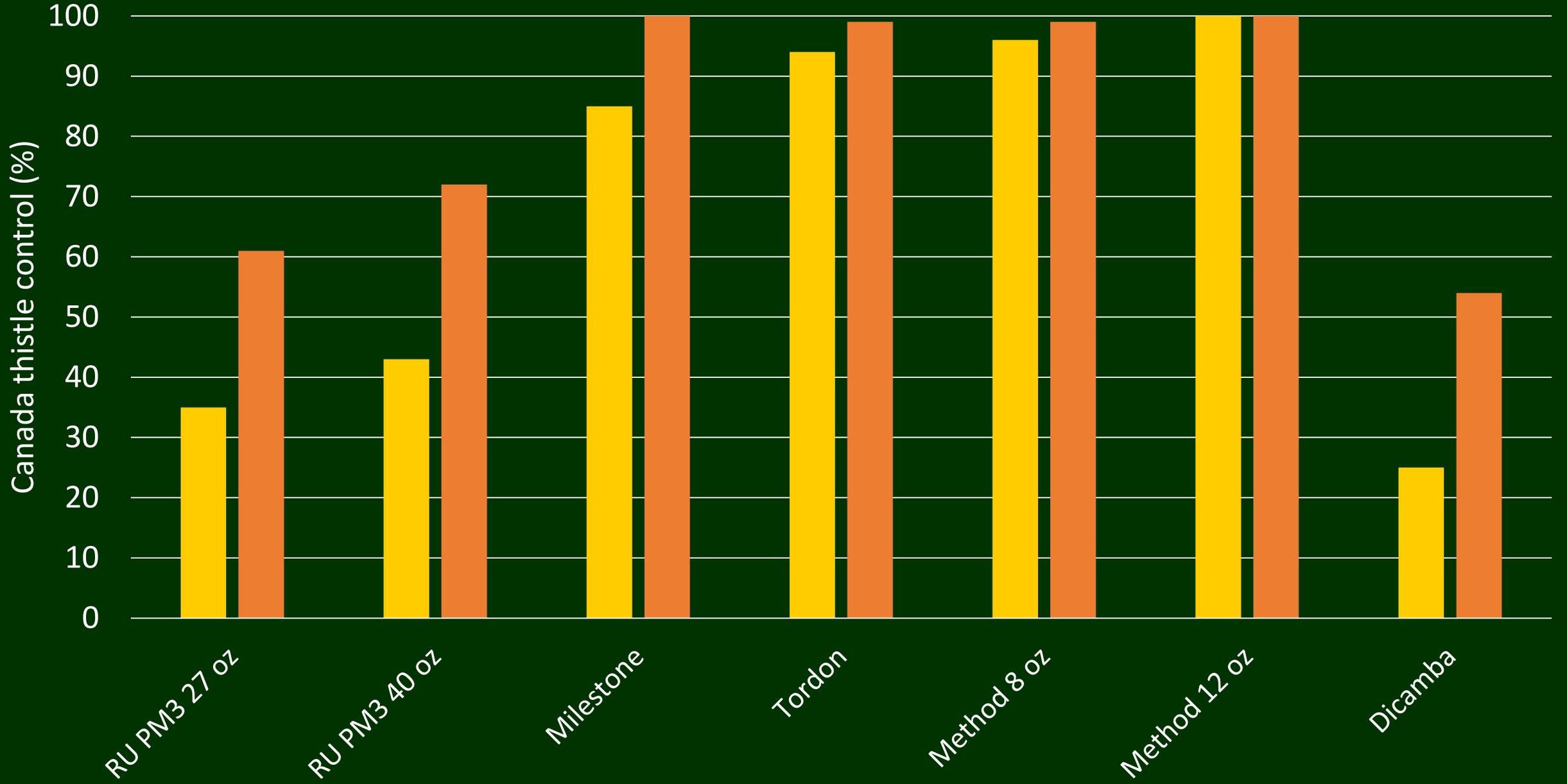
Canda thistle control (non-crop)

Herbicide Treatment		Rate	
Active ingredient	Trade name	(oz ae/A)	(oz product/A)
Glyphosate ⁹	Roundup PowerMax 3	16	26.7
Glyphosate ⁹	Roundup PowerMax 3	24	40
Aminopyralid ⁴	Milestone	1.7	7
Picloram ⁴	Tordon	8	32
Aminocyclopyrachlor ⁴	Method	2	8
Aminocyclopyrachlor ⁴	Method	3	12
Dicamba ⁴	Sterling Blue	16	32



■ 1 YAT (22-23) ■ 1 YAT (23-24)

LSD (0.05) = 4 (35 DAT); 12 (1 YAT)



Roundup PowerMax 3 (40 oz/A)



Dicamba (Sterling Blue) (32 oz/A)



Method (12 oz/A)





Thank You!