Weed Control Updates from the SouthWest

Caleb Dalley

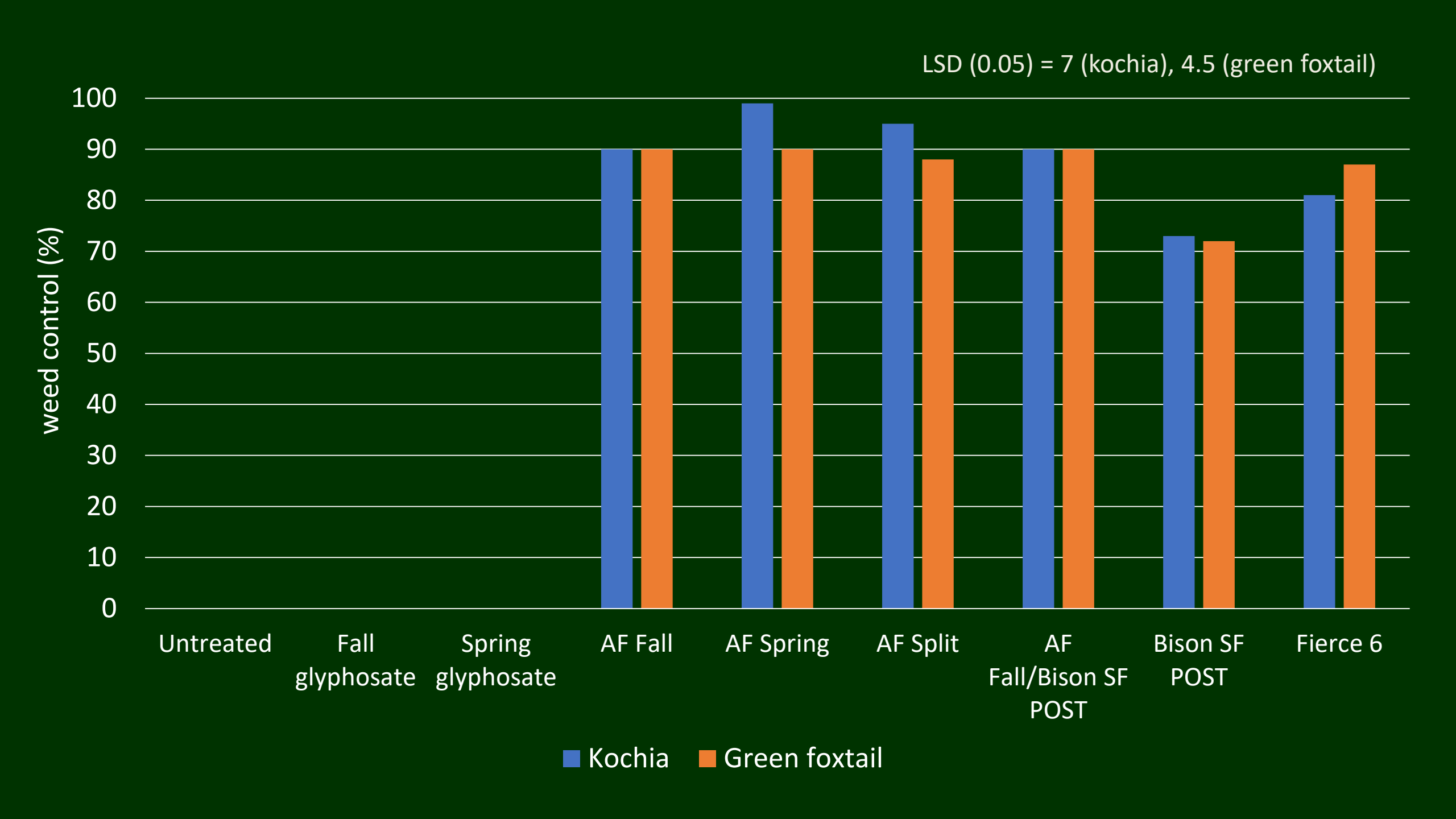
Hettinger Research and Extension Center

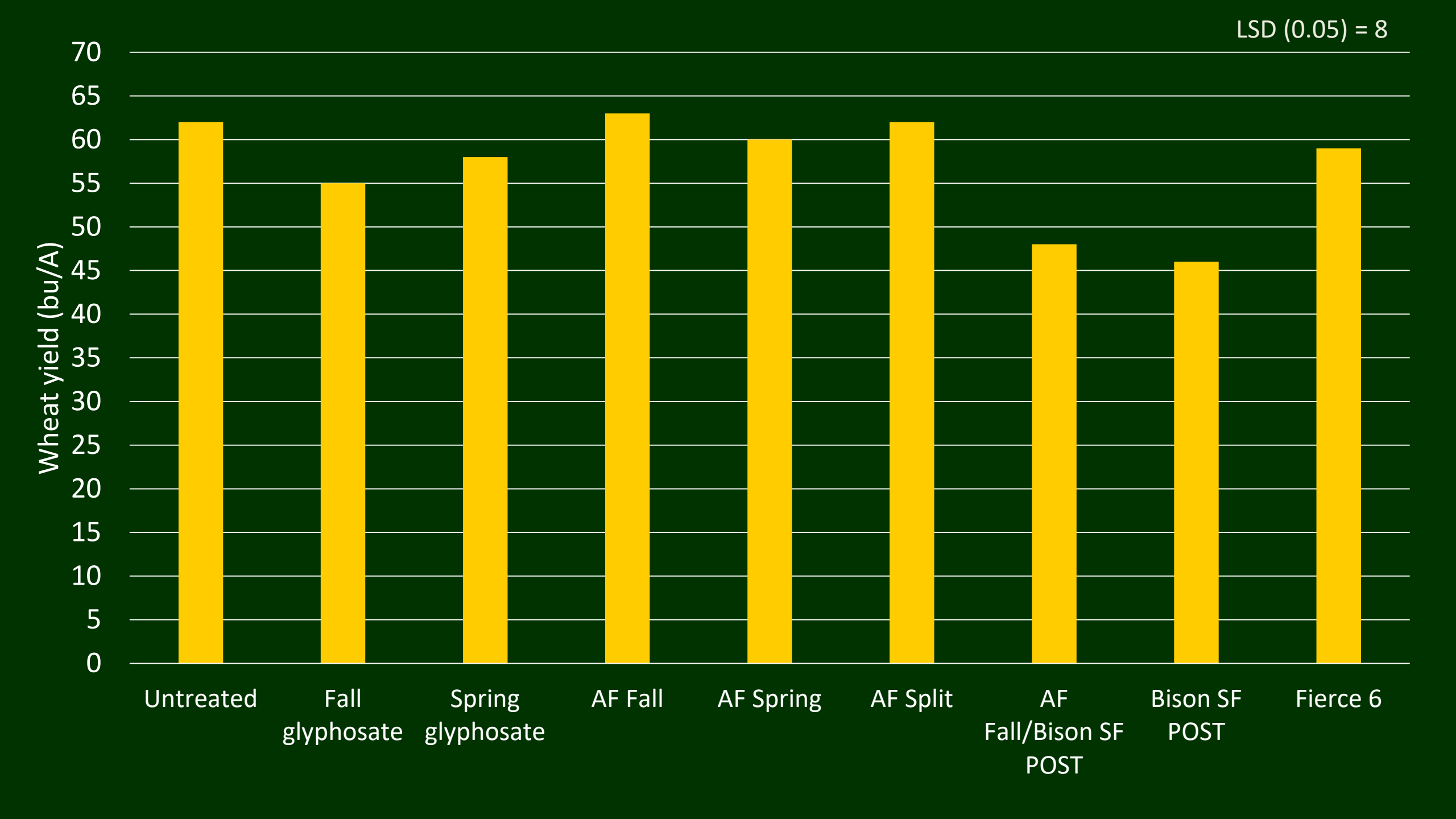
Fall vs Spring Herbicide Application in Spring Wheat

- Comparison of fall and spring PRE herbicide application for weed control in spring wheat
  - Weeds in trial included kochia and green foxtail
  - Fall treatments applied on October 19, 2022
  - Spring treatments applied on May 1, 2023; just after planting wheat
- 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 Bison plus Starane Flex POST
  - Bison plus Starane Flex POST (32 + 13.5 oz/A)
  - Fierce EZ applied in fall (6 oz/A)
  - Glyphosate alone: fall vs spring
  - Untreated

Fall vs Spring Herbicide Application in Spring Wheat

- Weather considerations
  - Fall application
    - Soil Temp was 43F at time of application
    - First significant precipitation was Nov 9 (snow) 0.47 inch moisture
  - Spring application
    - Soil Temp was 50F at time of application
    - Soil was dry due to limited rain in April (0.22 inches); few weeds were present
    - 1.27 inches of rain in week following application
    - 5.43 inches of rain in two weeks following application


LSD (0.05) = 7 (kochia), 4.5 (green foxtail)
weed control (%)
100
90
80
70
60
50
40
30
20
10
0
Untreated
Fall glyphosate
Spring glyphosate
AF Fall
AF Spring
AF Split
AF Fall/Bison SF POST
Bison SF POST
Fierce 6
Kochia
Green foxtail


LSD (0.05) = 8
Wheat yield (bu/A)
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
Untreated
Fall glyphosate
Spring glyphosate
AF Fall
AF Spring
AF Split
AF Fall/Bison SF POST
Bison SF POST
Fierce 6

Comparison of POST Options for Kochia in Spring Wheat

- Spring wheat planted on May 1, 2023
  - Dry soil conditions
  - No-till drill at 2-inch depth
  - No weeds present
  - 5.4 inches of rain from May 6-13
- Wheat emerged on May 13
- POST herbicide treatment applied on June 8
  - Kochia height:
    - 3-inch average
    - Range of 1 to 6 inches
    - 2.5-inch median height
  - Tractor-mounted sprayer
    - 10 gal/acre
    - 4.5 mph

Comparison of POST options for Kochia in Spring Wheat

Herbicide Treatment		Rate	
Active ingredient	**Trade name**	**(oz ai/A)**	**(oz product/A)**
Fluroxypyr[4]	Starane Ultra	1.9	5.3
Fluroxypyr[4] + pyroxsulam[2]	OpenSky	1.9 + 0.21	16
Fluroxypyr[4] + halauxifen[4] + florasulam[2]	Starane Ultra + Quelex	1.9 + 0.075 + 0.075	5.3 + 0.75
Fluroxypyr[2] + pyroxsulam[2] + halauxifen[4] + florasulam[2]	OpenSky + Quelex	1.9 + 0.21 + 0.075 + 0.075	16 + 0.75
Fluroxypyr[4] + clopyralid[4]	WideMatch	2 + 2	21.3
Fluroxypyr[4] + clopyralid[4] + MCPE[4]	WideMatch + MCPE	2 + 2 + 3.7	21.3 + 8
Fluroxypyr[4] + clopyralid[4] + halauxifen[4] + florasulam[2]	WideMatch + Quelex	2 + 2 + 0.075 + 0.075	21.3 + 0.75
Fluroxypyr[4] + clopyralid[4] + pyroxsulam[2]	PerfectMatch	1.5 + 1.5 + 0.22	16
Fluroxypyr[4] + thifensulfuron[2] + tribenuron[2]	Supremacy	1 + 0.18 + 0.06	4
Bromoxynil[6] + bicyclopyrone[27]	Talinor	2.5 + 0.5	13.7
Bromoxynil[6] + pyrasulfotole[27] + thiencarbazone[2]	Huskie Complete	3.5 + 0.45 + 0.068	13.7
Fluroxypyr[4] + bromoxynil[6] + pyrasulfotole[27]	Huskie FX	1.3 + 3.2 + 0.58	18
Fluroxypyr[4] + bromoxynil[6] + MCPA[4]	Carnivore	1.3 + 3.3 + 3.3	16

Comparison of POST options for Kochia in Spring Wheat

Herbicide Treatment		Kochia control	
Active ingredient	**Trade name**	**14 DAT**	**32 DAT**
Fluroxypyr	Starane Ultra	72	75
Fluroxypyr + pyroxsulam	OpenSky	83	84
Fluroxypyr + halauxifen + florasulam	Starane Ultra + Quelex	85	86
Fluroxypyr + pyroxsulam + halauxifen + florasulam	OpenSky + Quelex	81	86
Fluroxypyr + clopyralid	WideMatch	67	74
Fluroxypyr + clopyralid + MCPE	WideMatch + MCPE	74	77
Fluroxypyr + clopyralid + halauxifen + florasulam	WideMatch + Quelex	80	87
Fluroxypyr + clopyralid + pyroxsulam	PerfectMatch	80	85
Fluroxypyr + thifensulfuron + tribenuron	Supremacy	85	85
Bromoxynil + bicyclopyrone	Talinor	82	81
Bromoxynil + pyrasulfotole + thiencarbazone	Huskie Complete	86	90
Fluroxypyr + bromoxynil + pyrasulfotole	Huskie FX	91	98
Fluroxypyr + bromoxynil + MCPA	Carnivore	74	76

Comparison of POST options for Kochia in Spring Wheat

Herbicide Treatment		Wheat yield
Active ingredient	**Trade name**	**Bushels/acre**
Untreated control		102
Fluroxypyr	Starane Ultra	99
Fluroxypyr + pyroxsulam	OpenSky	106
Fluroxypyr + halauxifen + florasulam	Starane Ultra + Quelex	100
Fluroxypyr + pyroxsulam + halauxifen + florasulam	OpenSky + Quelex	101
Fluroxypyr + clopyralid	WideMatch	103
Fluroxypyr + clopyralid + MCPE	WideMatch + MCPE	97
Fluroxypyr + clopyralid + halauxifen + florasulam	WideMatch + Quelex	100
Fluroxypyr + clopyralid + pyroxsulam	PerfectMatch	97
Fluroxypyr + thifensulfuron + tribenuron	Supremacy	99
Bromoxynil + bicyclopyrone	Talinor	98
Bromoxynil + pyrasulfotole + thiencarbazone	Huskie Complete	107
Fluroxypyr + bromoxynil + pyrasulfotole	Huskie FX	98
Fluroxypyr + bromoxynil + MCPA	Carnivore	96

Comparison of POST Options for Kochia in Spring Wheat

- Spring wheat planted on May 1, 2023
  - Dry soil conditions
  - No-till drill at 2-inch depth
  - No weeds present
  - 5.4 inches of rain from May 6-13
- Wheat emerged on May 13
- POST herbicide treatment applied on June 6
  - Kochia height:
    - 3-inch average
    - Range of 1 to 7 inches
    - 2.8-inch median height
  - Tractor-mounted sprayer
    - 10 gal/acre
    - 4.5 mph

Comparison of POST options for Kochia in Spring Wheat

Herbicide Treatment		Rate	
Active ingredient	**Trade name**	**(oz ai/A)**	**(oz product/A)**
Fluroxypyr[4] + bromoxynil[6] + pyrasulfotole[27]	Huskie FX	1.1 + 2.75 + 0.5	15.5
Fluroxypyr[4] + bromoxynil[6] + pyrasulfotole[27]	Huskie FX	1.3 + 3.2 + 0.58	18
Fluroxypyr[4] + clopyralid[4] + halauxifen[4] + MCPE[4]	WideARMatch + MCPE	1.8 + 1.4 + 0.06 + 3.7	14 + 8
Bromoxynil[6] + bicyclopyrone[27]	Talinor	2.5 + 0.5	13.7
Bromoxynil[6] + MCPA[4]	Bison	4 + 4	16

Comparison of POST options for Kochia in Spring Wheat

Herbicide Treatment		Kochia control		
Active ingredient	**Trade name**	**10 DAT**	**22 DAT**	**58 DAT**
Fluroxypyr + bromoxynil + pyrasulfotole	Huskie FX	85	91	90
Fluroxypyr + bromoxynil + pyrasulfotole	Huskie FX	88	93	90
Fluroxypyr + clopyralid + halauxifen + MCPE	WideARMatch + MCPE	79	77	79
Bromoxynil + bicyclopyrone	Talinor	82	86	89
Bromoxynil + MCPA	Bison	80	78	79
LSD (0.05)		3	6	7

Comparison of POST options for Kochia in Spring Wheat

Herbicide Treatment		Wheat Yield
Active ingredient	**Trade name**	**Bushels/acre**
Untreated		70
Fluroxypyr + bromoxynil + pyrasulfotole	Huskie FX	69
Fluroxypyr + bromoxynil + pyrasulfotole	Huskie FX	69
Fluroxypyr + clopyralid + halauxifen + MCPE	WideARMatch + MCPE	69
Bromoxynil + bicyclopyrone	Talinor	73
Bromoxynil + MCPA	Bison	72
LSD (0.05)		NS

Comparison of POST Options for Kochia in Spring Wheat

- Spring wheat planted on May 1, 2023
  - Dry soil conditions
  - No-till drill at 2-inch depth
  - No weeds present
  - 5.4 inches of rain from May 6-13
- Wheat emerged on May 13
- POST herbicide treatment applied on June 5
  - Kochia height:
    - 2-inch average
    - Range of 0.4 to 4 inches
    - 2-inch median height
  - Tractor-mounted sprayer
    - 15 gal/acre
    - 4.5 mph

Comparison of POST options for Kochia in Spring Wheat

Herbicide Treatment		Rate	
Active ingredient	**Trade name**	**(oz ai/A)**	**(oz product/A)**
Fluroxypyr[4] + bromoxynil[6] + flucarbazone[2]	Batalium Amped	1.56 + 4.16 + 0.44	16
Bromoxynil[6] + pyrasulfotole[27] + thiencarbazone[2]	Huskie Complete	3.5 + 0.45 + 0.068	13.7
Fluroxypyr[4] + clopyralid[4] + pyroxsulam[2]	PerfectMatch	1.5 + 1.5 + 0.22	16
Fluroxypyr[4] + halauxifen[4] + pinoxaden[1]	Rezuvant	1.8 + 0.072 + 0.86	16.4

Comparison of POST options for Kochia in Spring Wheat

Herbicide Treatment		Kochia control		
Active ingredient	**Trade name**	**10 DAT**	**30 DAT**	**65 DAT**
Fluroxypyr + bromoxynil + flucarbazone	Batalium Amped	86	97	86
Bromoxynil + pyrasulfotole + thiencarbazone	Huskie Complete	85	92	87
Fluroxypyr + clopyralid + pyroxsulam	PerfectMatch	73	79	76
Fluroxypyr + halauxifen + pinoxaden	Rezuvant	76	85	81
LSD (0.05)		3	6	7

Comparison of POST options for Kochia in Spring Wheat

Herbicide Treatment		Wheat yield
Active ingredient	**Trade name**	**Bushels/acre**
Untreated		91
Fluroxypyr + bromoxynil + flucarbazone	Batalium Amped	92
Bromoxynil + pyrasulfotole + thiencarbazone	Huskie Complete	93
Fluroxypyr + clopyralid + pyroxsulam	PerfectMatch	87
Fluroxypyr + halauxifen + pinoxaden	Rezuvant	90
LSD (0.05)		NS

Bottom Line

- Wheat can be very competitive with weeds under good growing conditions
- Fall and Spring PRE herbicides
  - Both Anthem Flex and Valor helped control kochia and green foxtail
  - Fall applications should be delayed until soil temps in 40s
  - Spring applications need good rainfall to activate
    - In 2023 we had 5.43 inches of rain two weeks following application
- Still many viable POST options for kochia control in spring wheat
  - Can’t rely on fluroxypyr alone to control kochia
  - Need at least 2 modes of action
    - Group 4
    - Group 6
    - Group 27

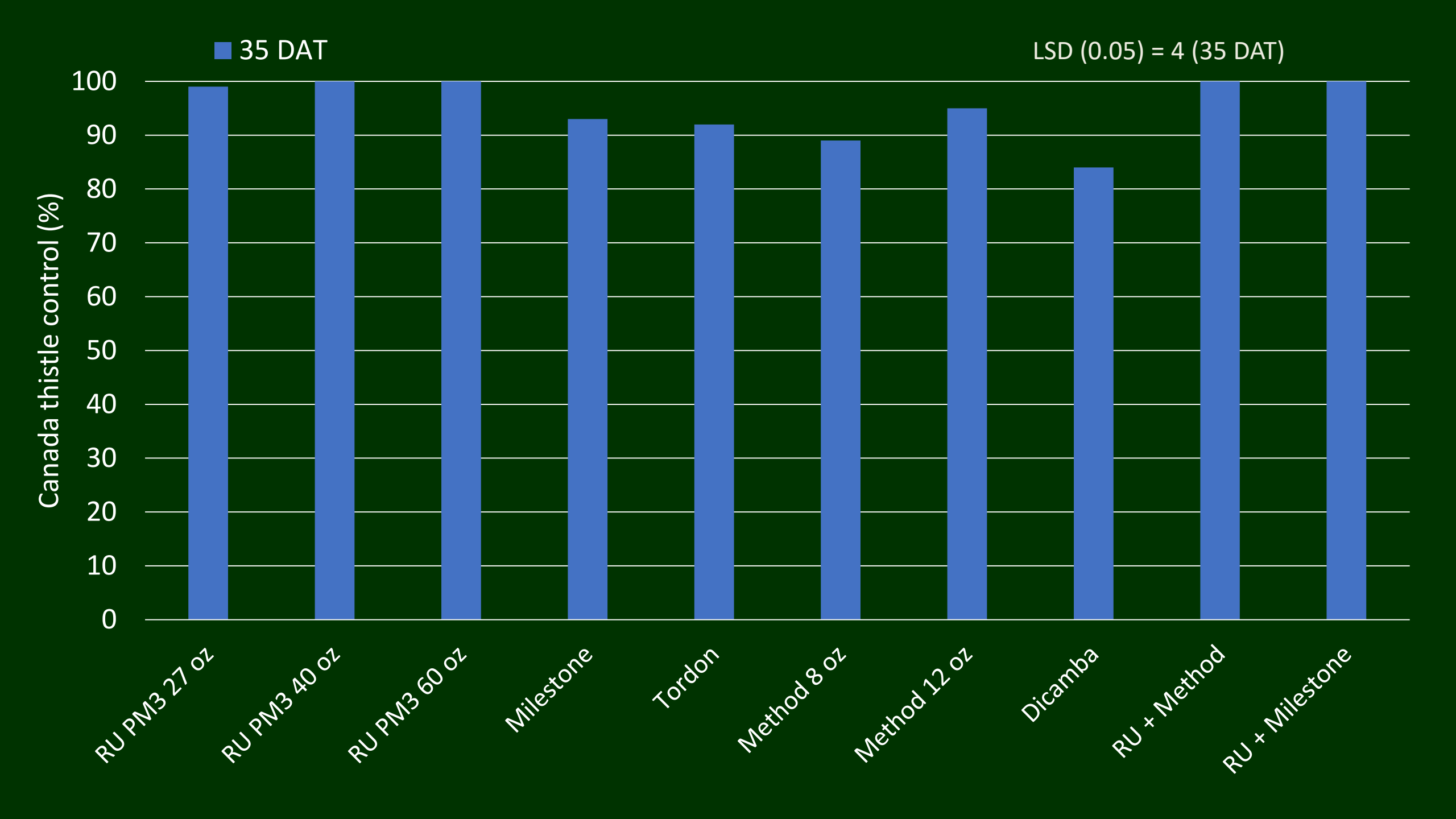
Canada Thistle Control In Non-crop (Rangeland)

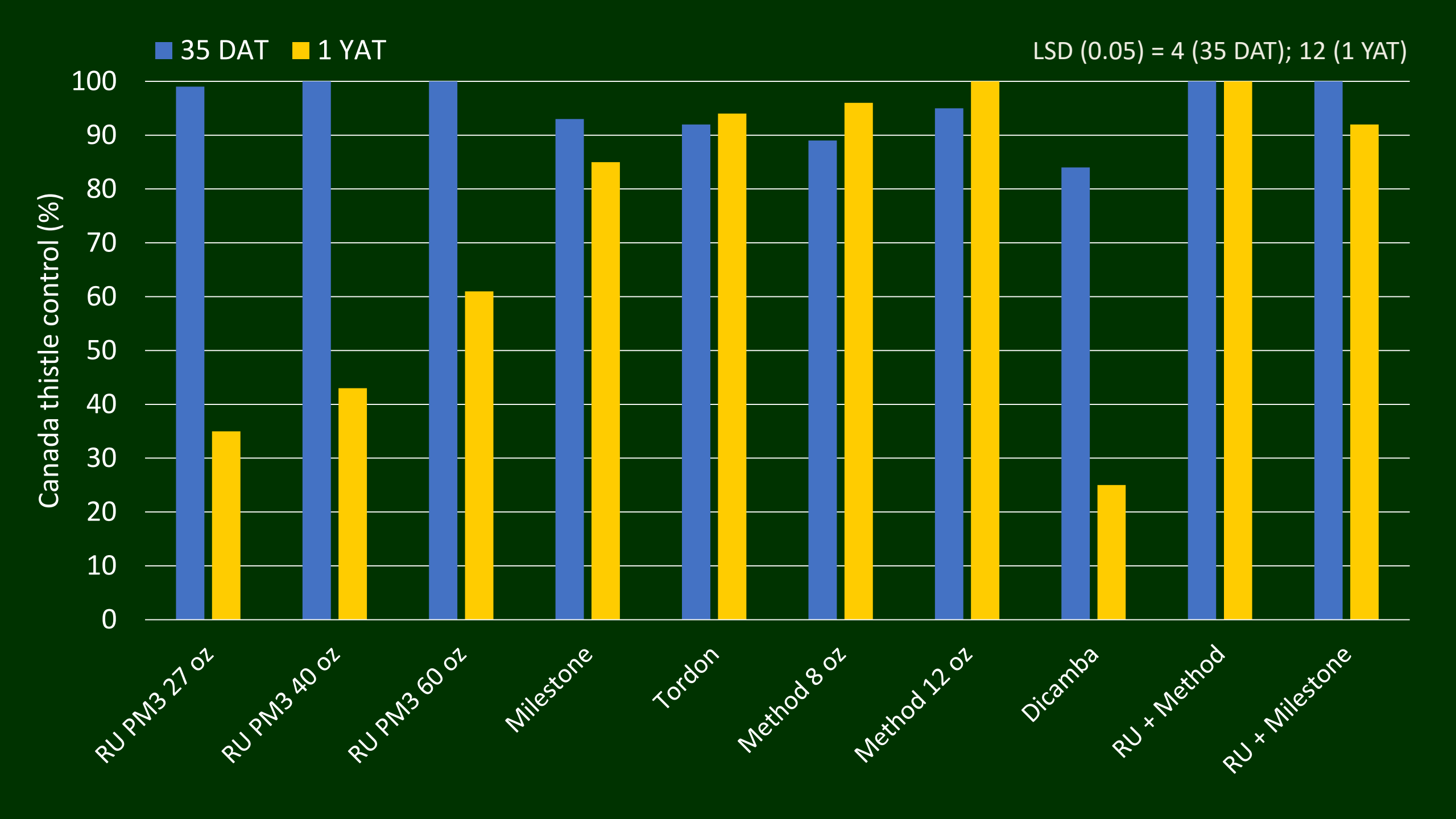
Canada thistle control (non-crop)

- Herbicide treatment applied on July 14, 2022
  - 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
Glyphosate[9]	Roundup PowerMax 3	36	60
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
Glyphosate[9] + Aminocyclopyrachlor[4]	Roundup PowerMax 3 + Method	16 + 2	26.7 + 8
Glyphosate[9] + Aminopyralid[4]	Roundup PowerMax 3 + Milestone	16 + 1.7	26.7 + 7


35 DAT
LSD (0.05) = 4 (35 DAT)
Canada thistle control (%)
100
90
80
70
60
50
40
30
20
10
0
RU PM3 27 oz
RU PM3 40 oz
RU PM3 60 oz
Milestone
Tordon
Method 8 oz
Method 12 oz
Dicamba
RU + Method
RU + Milestone


35 DAT
1 YAT
LSD (0.05) = 4 (35 DAT); 12 (1 YAT)
Canada thistle control (%)
100
90
80
70
60
50
40
30
20
10
0
RU PM3 27 oz
RU PM3 40 oz
RU PM3 60 oz
Milestone
Tordon
Method 8 oz
Method 12 oz
Dicamba
RU + Method
RU + Milestone

Thank You!