Weed Control in Southwest North Dakota 2017

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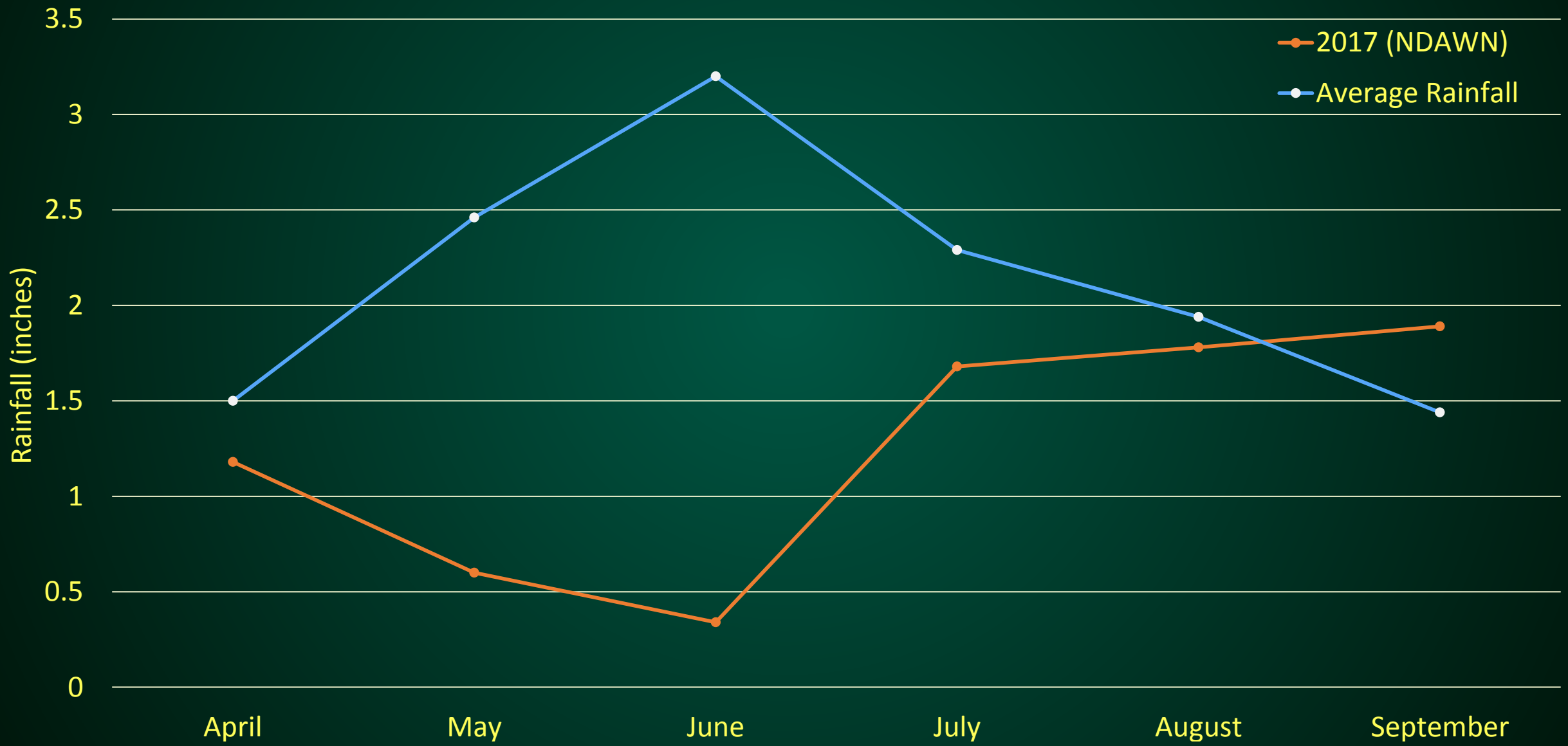
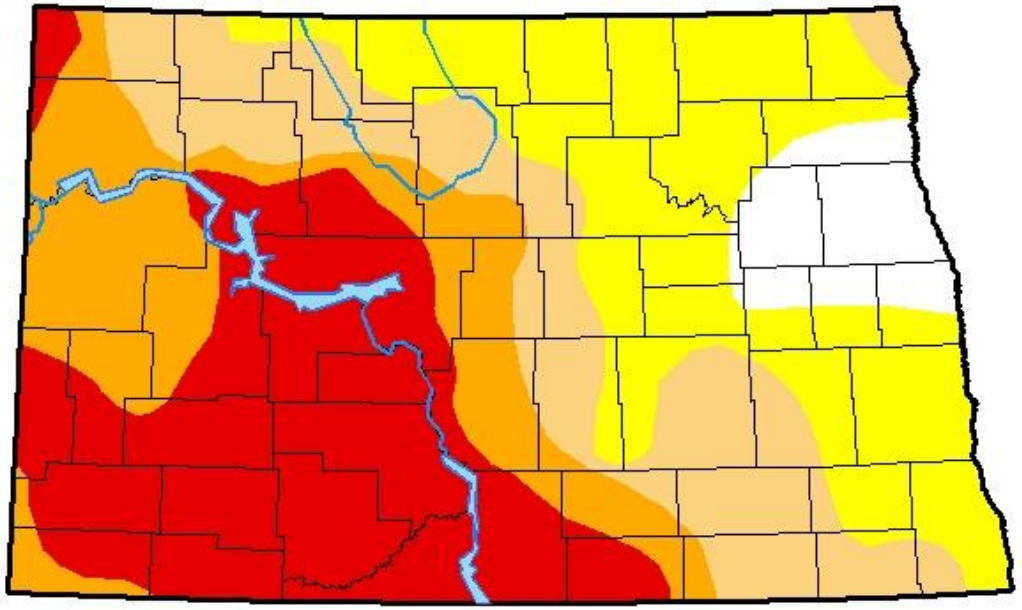
Hettinger Research Extension Center

Rainfall at Hettinger in 2017



U.S. Drought Monitor

North Dakota



July 4, 2017

(Released Thursday, Jul. 6, 2017)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	6.32	93.68	66.77	46.99	29.29	0.00
Last Week *06-27-2017*	0.02	99.98	66.77	46.90	25.06	0.00
3 Months Ago *04-04-2017*	93.83	6.17	0.00	0.00	0.00	0.00
Start of Calendar Year *01-03-2017*	93.87	6.13	0.00	0.00	0.00	0.00
Start of Water Year *09-27-2016*	96.70	3.30	0.41	0.00	0.00	0.00
One Year Ago *07-05-2016*	80.53	19.47	4.94	0.48	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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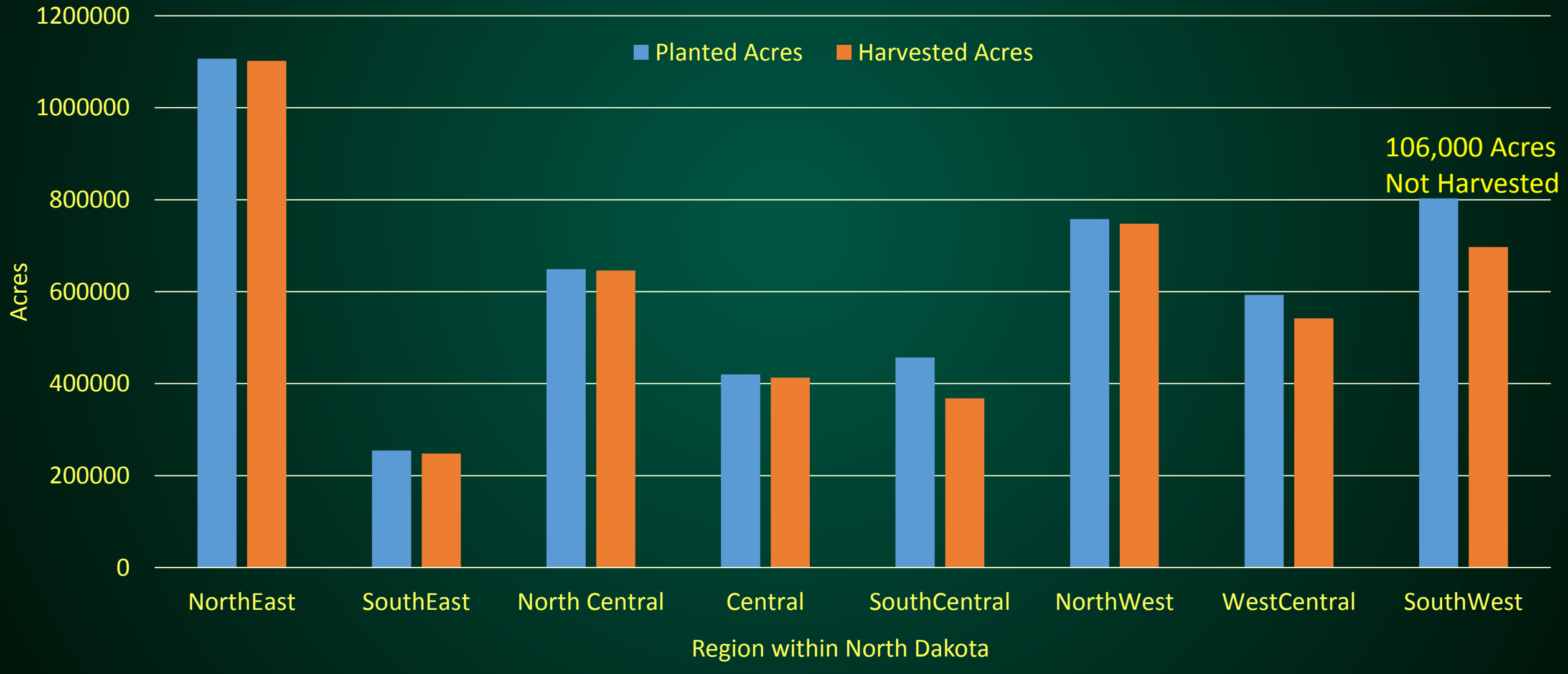
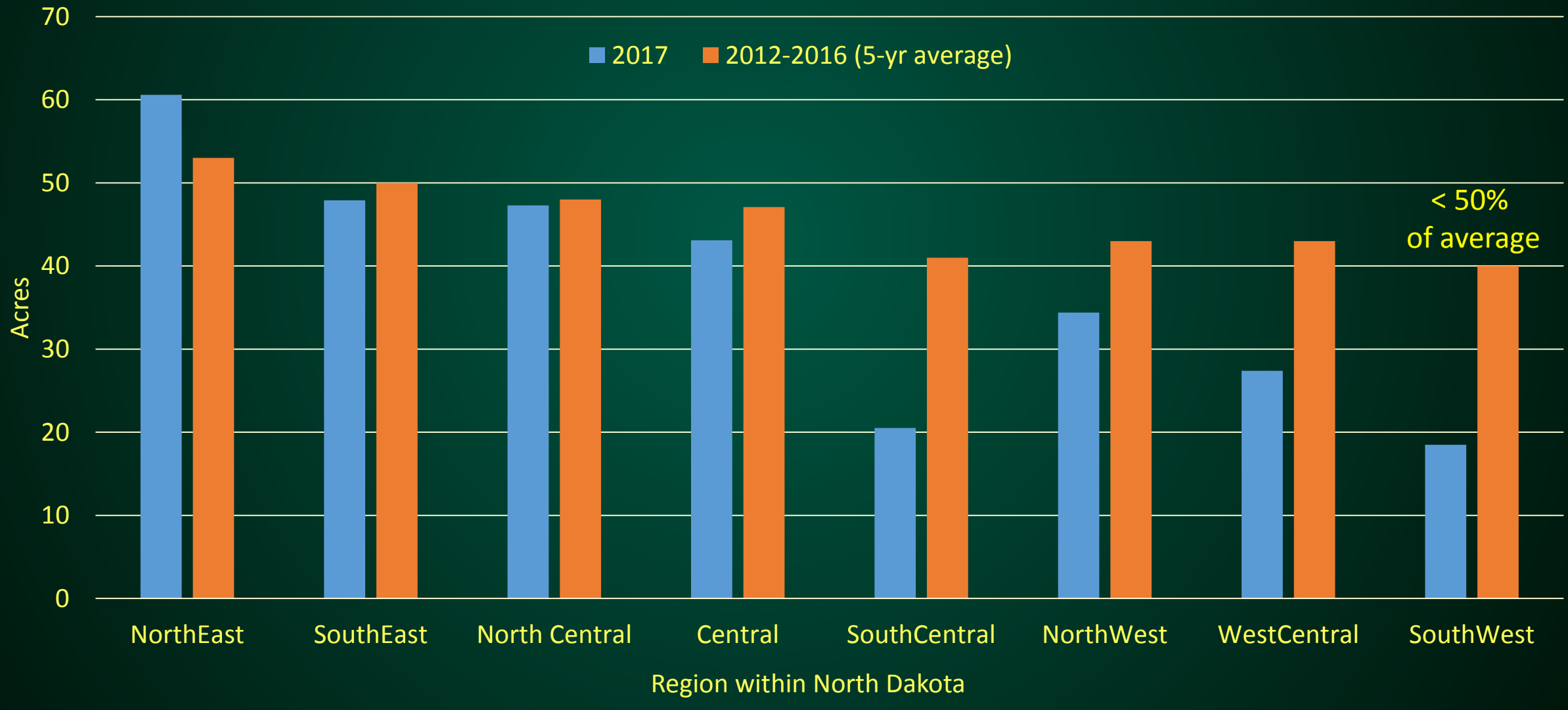
Western Regional Climate Center

http://droughtmonitor.unl.edu/

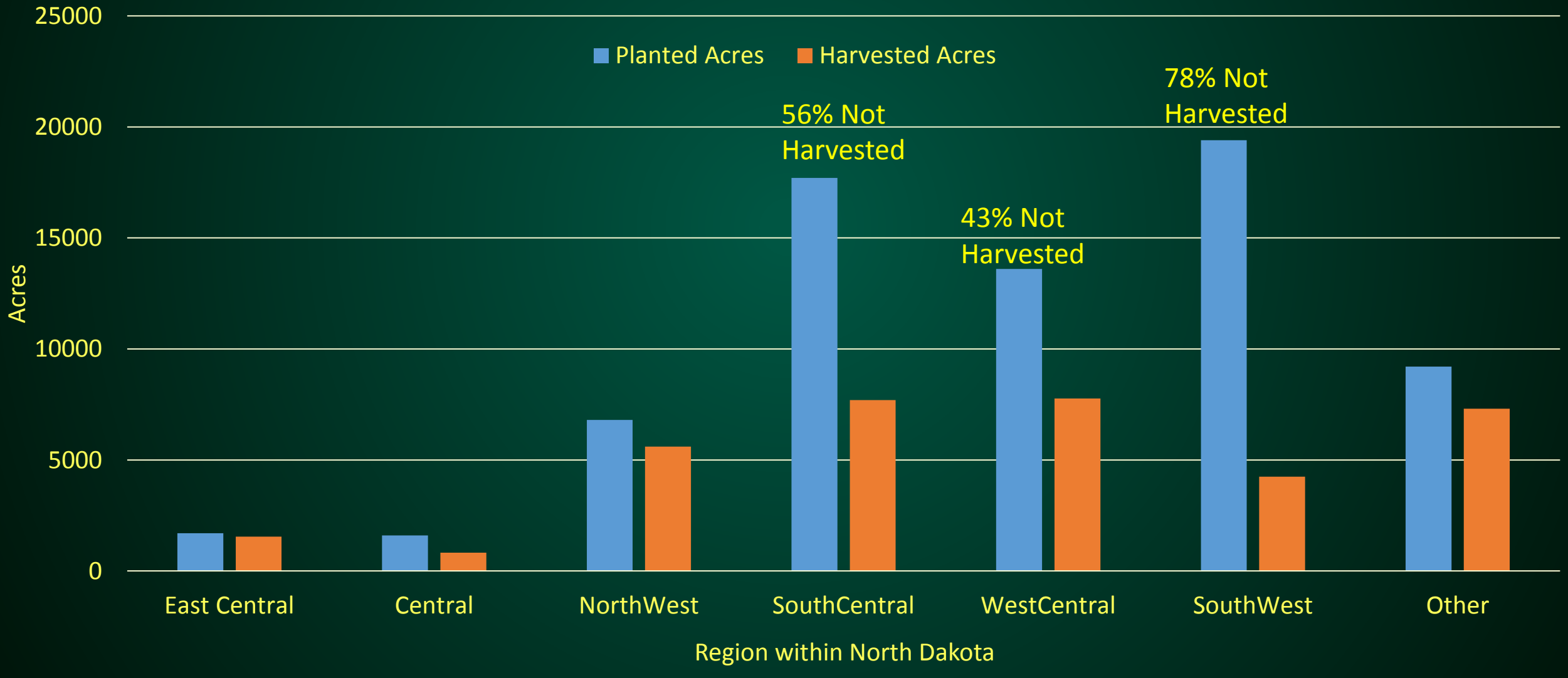
Spring Wheat in North Dakota 2017



Spring Wheat Yield in North Dakota



Winter Wheat in North Dakota 2017



Postharvest Kochia Control

Trial established near Dickinson

- Evaluation of 5 herbicide treatments
  - Glyphosate + Clarity + 2,4-D
  - Glyphosate + Starane Ultra
  - Gramoxone + HSOC
  - Gramoxone + 2,4-D + NIS
  - Gramoxone + Metribuzin + NIS
- Applied August 23
  - Each treatment replicated 3 times
  - Kochia height varied in each replication
    - 1st rep 2 to 4 inches
    - 2nd rep 6 to 12 inches
    - 3rd rep 12+ inches

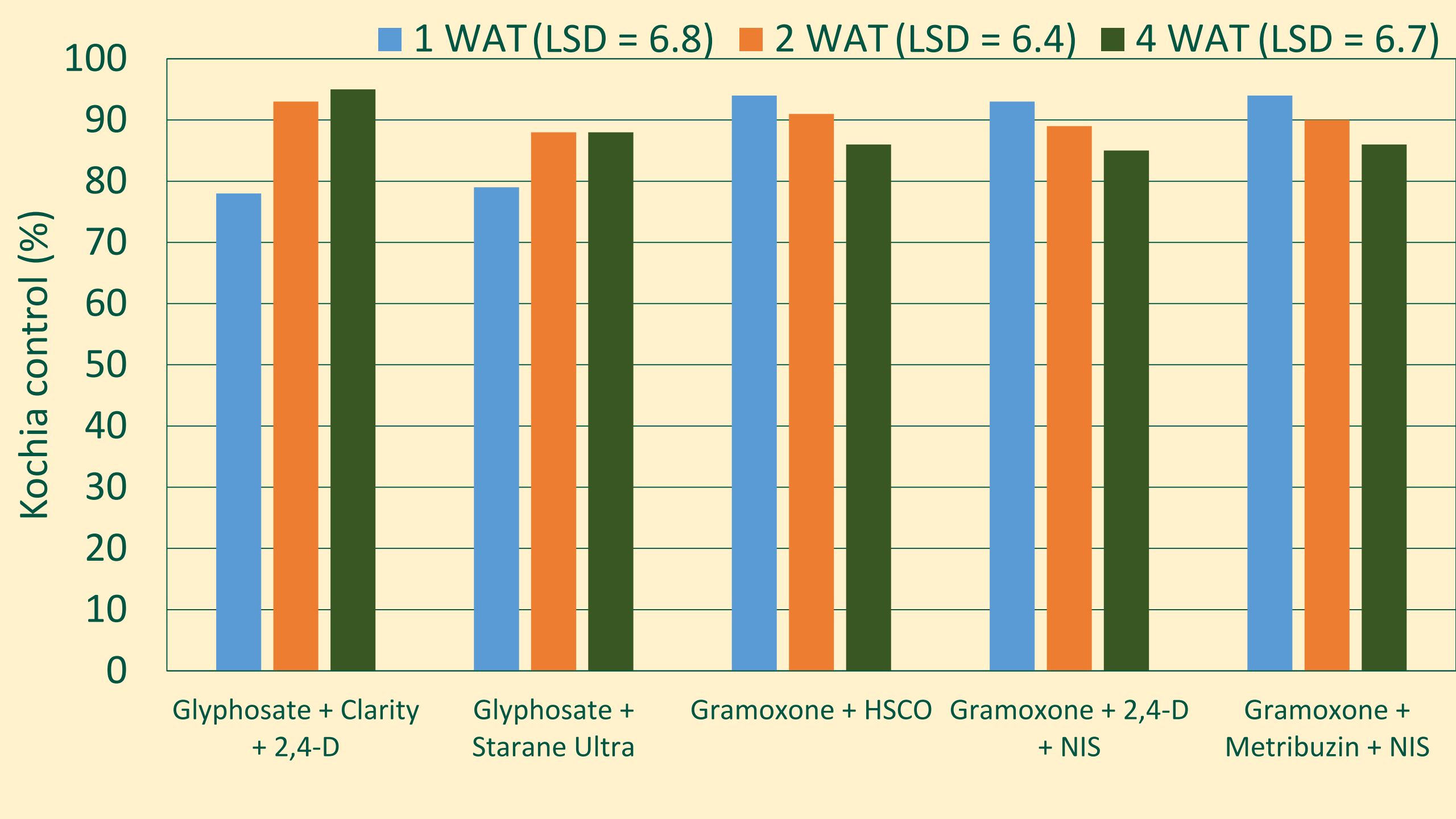
Untreated Control

Glyphosate + Clarity + 2,4-D

Glyphosate + Starane Ultra

Gramoxone + HSOC

Gramoxone + Metribuzin + NIS


1 WAT (LSD = 6.8)
2 WAT (LSD = 6.4)
4 WAT (LSD = 6.7)
Kochia control (%)
100
90
80
70
60
50
40
30
20
10
0
Glyphosate + Clarity + 2,4-D
Glyphosate + Starane Ultra
Gramoxone + HSCO
Gramoxone + 2,4-D + NIS
Gramoxone + Metribuzin + NIS

Post-harvest Kochia Control

Trial established at Hettinger REC

- Evaluation of 25 herbicide treatments
  - Glyphosate (48 oz/A) +AMS (8.5 lbs/100 Gal)
  - Starane Ultra (8 oz/A)
  - Dicamba + Starane Ultra (4 oz + 8 oz/A)
  - Glyphosate + Starane Ultra (24 + 8 oz/A)+ AMS
  - WideMatch (1.33 pt/A)
  - Gramoxone (48 oz/A)
- Treatments applied July 26
  - Each treatment replicated 4 times
  - Kochia height was 10 to 18 inches

Untreated Control

Glyphosate (48 oz/A + AMS)

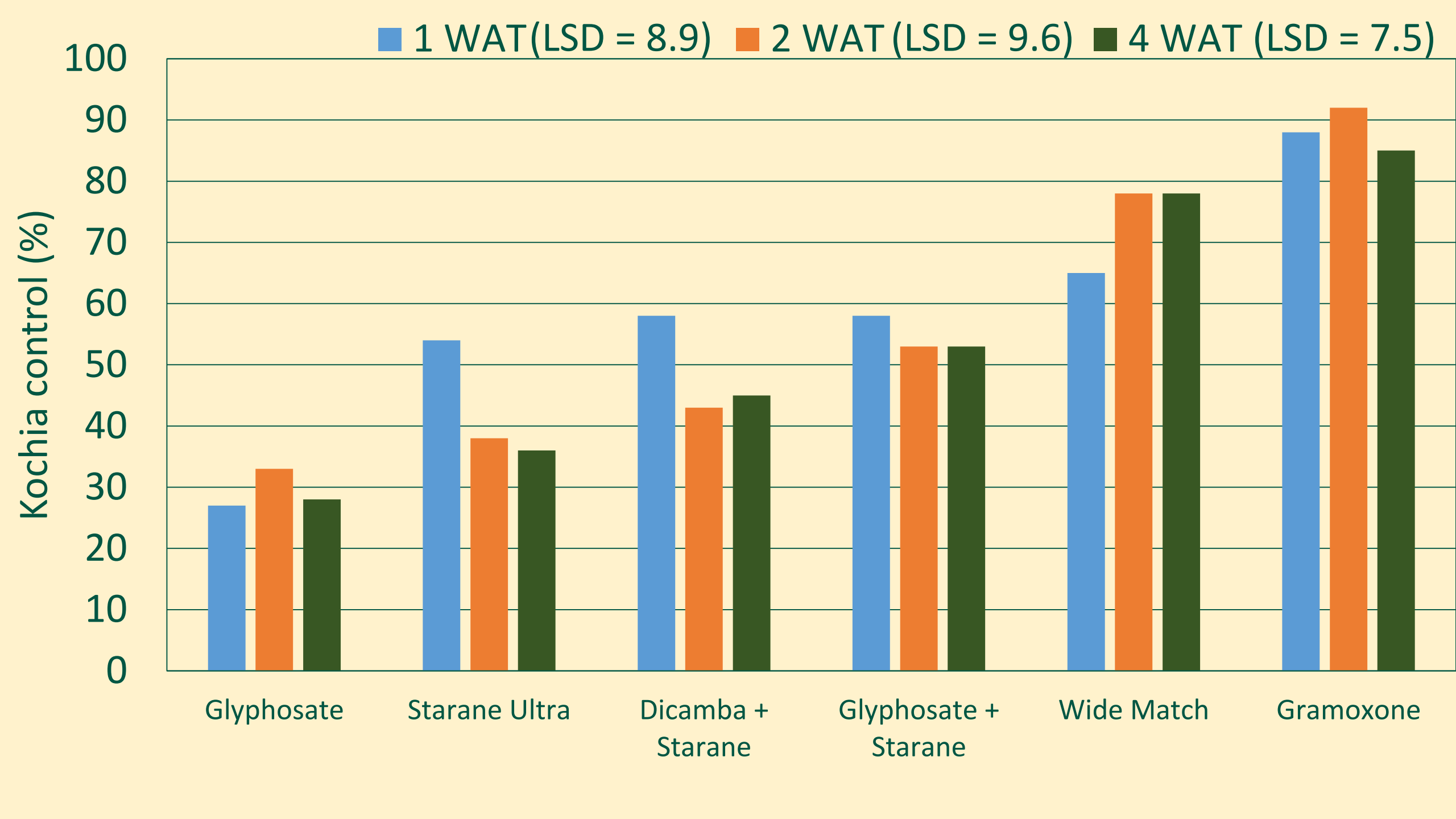
Starane Ultra (8oz/A)

Glyphosate (24 oz/A + AMS) + Starane (8 oz/A)

Dicamba (4 oz/A) + Starane (8 oz/A)

WideMatch (1.33 pt/A)

Gramoxone (48 oz/A)


1 WAT(LSD = 8.9)
2 WAT (LSD = 9.6)
4 WAT (LSD = 7.5)
Kochia control (%)
100
90
80
70
60
50
40
30
20
10
0
Glyphosate
Starane Ultra
Dicamba + Starane
Glyphosate + Starane
Wide Match
Gramoxone

Postharvest Kochia and Russian thistle Control

Trial established at Hettinger

- Evaluation of 20 herbicide treatments
  - Glyphosate (48 oz/A) + AMS (8.5 lbs/100 Gal)
  - Starane Ultra (0.7 pt/A)
  - Dicamba + Starane Ultra (8 oz + 0.7 pt/A)
  - Glyphosate + Starane Ultra (24 + 0.7 pt/A) + AMS
  - WideMatch (1.33 pt/A)
  - Gramoxone (48 oz/A) + NIS (0.5% v/v)
- Treatments applied August 22
  - Each treatment replicated 4 times
  - Kochia/Russian thistle height was 18 to 24 inches

Untreated Control

Glyphosate (48 oz/A + AMS)

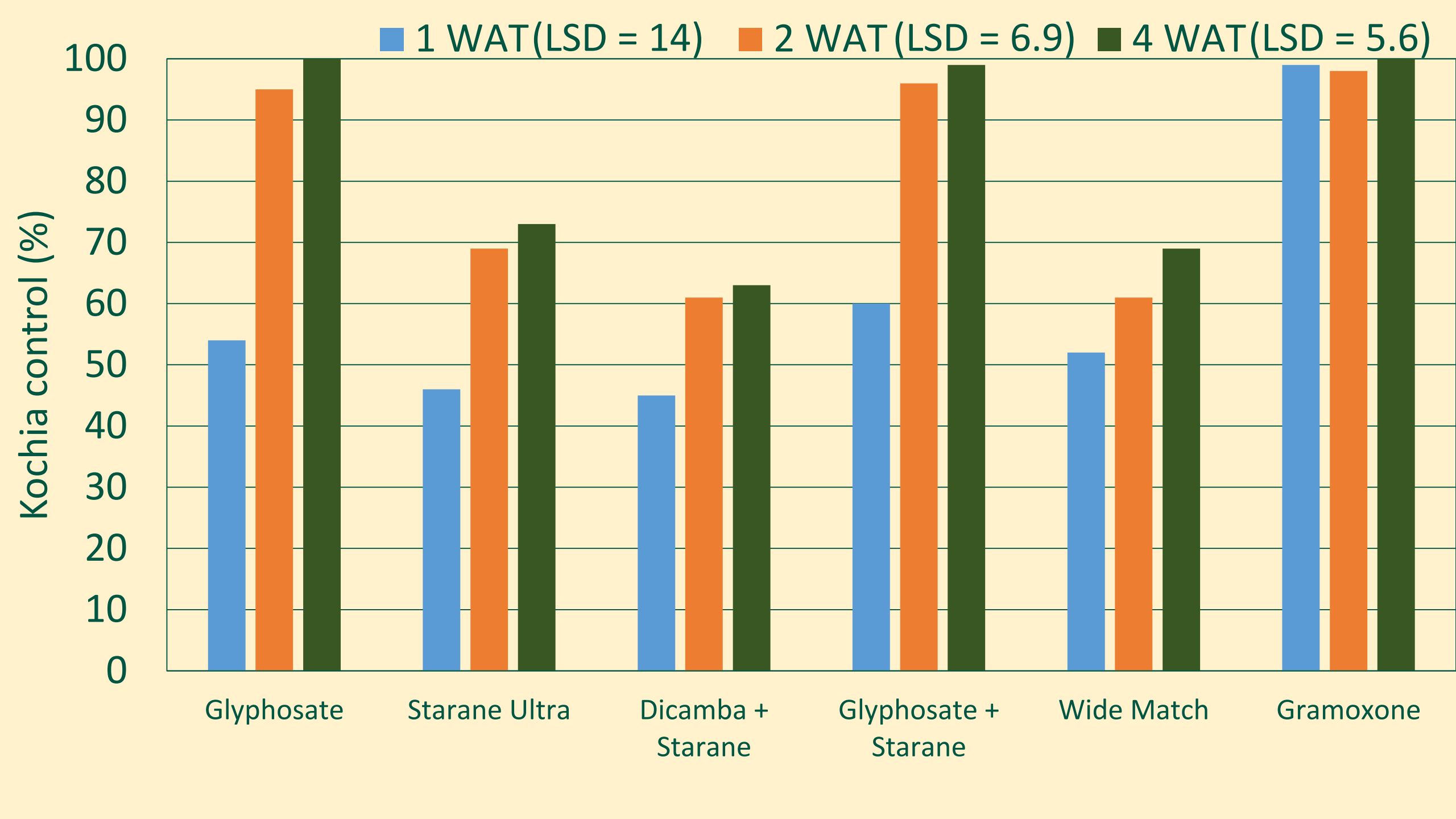
Starane Ultra (8oz/A)

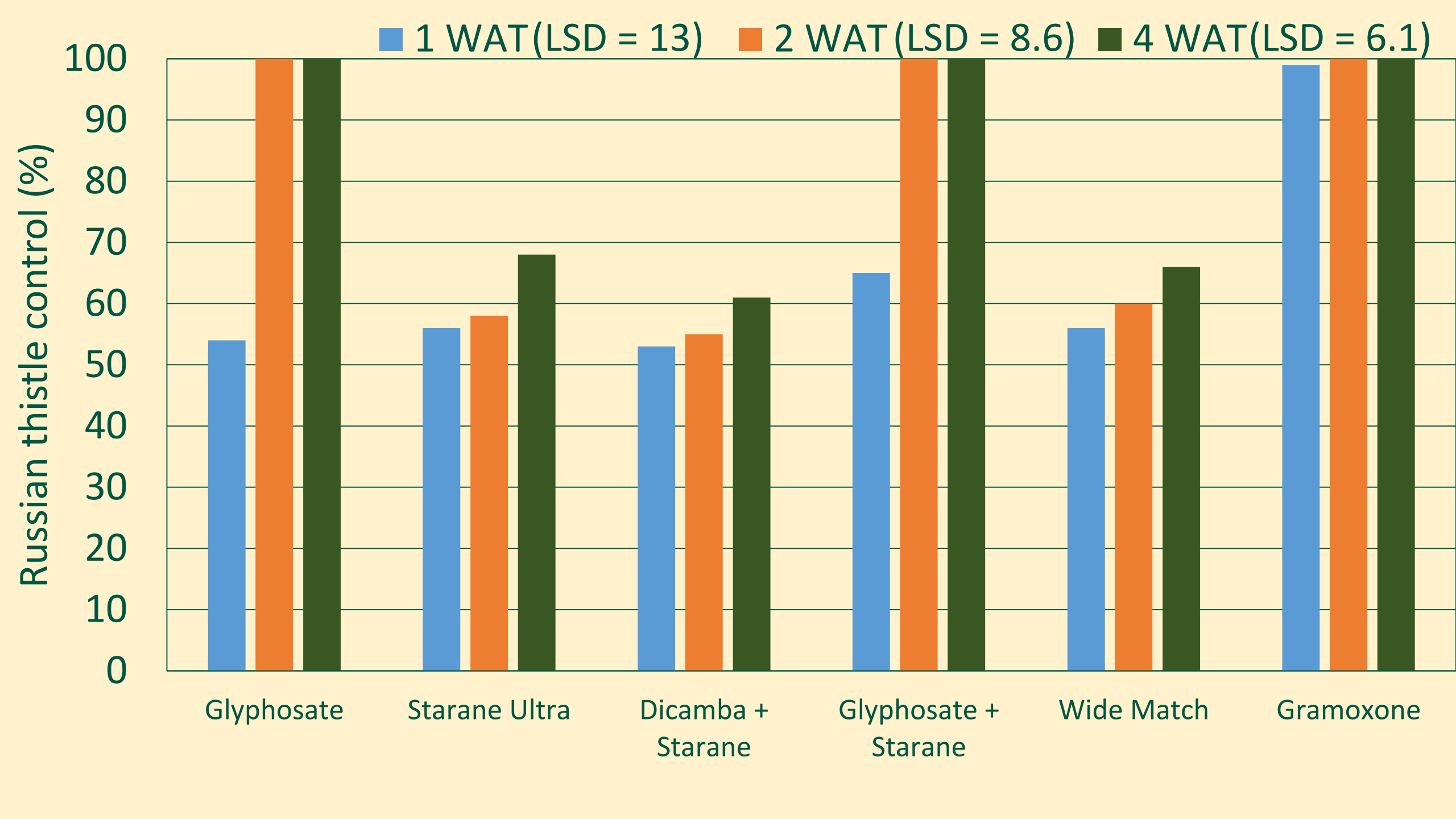
Dicamba (4 oz/A) + Starane (8 oz/A)

Glyphosate (24 oz/A + AMS) + Starane (8 oz/A)

WideMatch (1.33 pt/A)

Gramoxone (48 oz/A) + NIS


1 WAT(LSD = 14)
2 WAT (LSD = 6.9)
4 WAT(LSD = 5.6)
Kochia control (%)
100
90
80
70
60
50
40
30
20
10
0
Glyphosate
Starane Ultra
Dicamba + Starane
Glyphosate + Starane
Wide Match
Gramoxone


1 WAT (LSD = 13)
2 WAT (LSD = 8.6)
4 WAT (LSD = 6.1)
Russian thistle control (%)
100
90
80
70
60
50
40
30
20
10
0
Glyphosate
Starane Ultra
Dicamba + Starane
Glyphosate + Starane
Wide Match
Gramoxone

Thoughts and Observations

- Environmental conditions in Southwest North Dakota forced many growers to harvest small grains as hay rather than grain which lead to kochia infestation of many small grain fields
- Kochia control needs to happen before it reaches 4 inches; this did not occur in many cases
- Larger, rapidly growing kochia is more difficult to control
- Gramoxone was the only herbicide that consistently controlled large kochia plants
- We need to be concerned about glyphosate resistance in kochia as it has become more widespread
- Tank-mixing other broadleaf herbicides with glyphosate to control glyphosate-resistant kochia will only be successful if kochia is small at time of application


Thank You!