Weed control in spring wheat using Huskie®

(Project ID: HP21USAYN7TKL2)

Objective: Evaluate weed control in spring wheat using **Huskie®**

Materials & Methods:

A field study was conducted at the University of Idaho Kimberly Research and Extension Center in Kimberly, Idaho, in 2021 to evaluate the efficacy and spring wheat response to Huskie® or Huskie® applied in mixtures with selected broadleaf and grassy herbicides. Soft white spring wheat ("UI cookie") was planted at 80 lbs/acre on April 7, 2021. The soil at the site was Portneuf silt loam composed of 23% sand, 59% silt, and 18% clay with a pH of 8.1, an OM content of 2.14%, and a CEC of 18.7 meq/100 g soil. Herbicide treatments were applied with a CO_2-pressurized bicycle sprayer delivering 12.4 gallons of total volume per acre at 30 psi with TeeJet 11002DG nozzles. Plots were 10 feet wide by 30 feet long and arranged in a randomized complete block design with 4 replications. Herbicide treatments were applied on May 19, 2021 (Table 1). The crop was irrigated with a solid-set overhead sprinkler as needed.

Weed control and crop response were assessed visually on a scale of 0 to 100%, with 0% representing no weed control or no injury and 100% complete weed control.

Results:

The application of Huskie ® alone or in mixtures with other herbicides resulted in minimal visible injury (<4%) in spring wheat (Table 2) and the crop recovered within a few weeks after treatment (Table 2 to 4).

Generally, treatments containing Huskie® or Huskie FX® provided good (>80%) broadleaf weed (common lambsquarters, kochia, and redroot pigweed) control (Table 2 & 3) which was similar to other treatments (Talinor® or Opensky® + MCPA Ester®). The addition of Huskie® or Huskie FX® to Axial Bold® did not reduce grassy weed (barnyardgrass and wild oat) control (Table 2 to 4).

Table 1. Herbicide treatment application details

	Application code “A”	
Date	5/19/21	
Time started	7:00 AM	
Time completed	7:45 AM	
Appl. method	bicycle	
Crop Stage	2-3 tiller/8"	
Air temperature (°F)	48	
Rel. humidity (%)	60	
Wind speed (MPH)	4.5	
Wind direction	WSW	
Soil temperature (°F) 0"	51	
2"	54	
4"	56	
Soil Moisture	moist	
Cloud Cover (%)	0	
Weed species & height	CHEAL:	3.5"/ 7 Leaf
	KCHSC:	2.5" / 11 Leaf
	AMARE:	1"/ 2 Leaf
	AVEFA:	4"/ 5 Leaf
	ECHCG:	1"/ 2 Leaf

Table 2. Weed control and spring wheat response to herbicides, Kimberly ID

Treatment	Rate (fl oz/a)	5-26-2021 (7 DAT§) CHEAL	KCHSC	AMARE	AVEFA	ECHCG	Injury	6-2-2021 (14 DAT) CHEAL	KCHSC	AMARE	AVEFA	ECHCG	Injury
		---%						---%					
Untreated‡		-	-	-	-	-	-	-	-	-	-	-	-
Huskie	13.5	77.5a*	67.5a	78.8a	12.5a	16.3a	3.8a	89.5a	83.3a	85.8a	80.0a	85.0a	0a
Axial Bold	15												
Huskie	13.5	77.5a	85.0a	82.5a	17.5a	18.8a	2.5a	97.0a	97.0a	94.3a	91.3a	92.5a	0a
MCPA Ester	8												
Axial Bold	15												
Huskie FX	15.5	82.5a	78.8a	87.5a	18.8a	18.8a	2.5a	95.0a	86.3a	89.8a	90.8a	91.0a	0a
Axial Bold	15												
Talinor	13.7	78.3a	83.8a	85.0a	18.8a	21.3a	4.5a	89.3a	86.0a	85.0a	88.8a	92.5a	0a
Coact+	2.75												
Axial Bold	15												
Opensky	16	67.5b	75.0a	78.8a	61ab	12.5a	5.3a	82.5a	83.8a	83.8a	86.3a	91.0a	0a
MCPA Ester	8												
Axial Bold	15												

Table 3. Weed control and spring wheat response to herbicides, Kimberly ID

Treatment	Rate (fl oz/a)	6-9-2021 (21 DAT§) CHEAL	KCHSC	AMARE	AVEFA	ECHCG	Injury	6-15-2021 (27 DAT) CHEAL	KCHSC	AMARE	AVEFA	ECHCG	Injury
		---%						---%					
Untreated‡		-	-	-	-	-	-	-	-	-	-	-	-
Huskie	13.5	88.5ab	84.8bc	87.3a	82.3a	82.3a	1.3a	91.0a	89.3bc	82.3a	86.3a	87.5a	0a
Axial Bold	15												
Huskie	13.5	98.0a	98.8a	95.8a	91.0a	94.8a	0.0a	96.8a	97.5a	93.8a	83.8a	95.0a	0a
MCPA Ester	8												
Axial Bold	15												
Huskie FX	15.5	96.8a	98.0a	91.3a	91.0a	94.8a	0.0a	97.8a	95.8ab	95.3a	86.3a	90.8a	0a
Axial Bold	15												
Talinor	13.7	97.8a	96.8ab	88.8a	88.8a	93.3a	0.0a	94.8a	93.5abc	85.0a	88.8a	87.5a	0a
Coact+	2.75												
Axial Bold	15												
Opensky	16	82.5b	83.8c	85.0a	83.8a	91.3a	0.0a	91.3a	87.0c	91.5a	88.8a	92.5a	0a
MCPA Ester	8												
Axial Bold	15												

*Within a column, means followed by the same letter are not significantly different at P = 0.05 as determined by Fisher's protected LSD test.
‡Untreated treatment(s) 1 excluded from analysis
§DAT, days after herbicide treatment

Weed Code:

CHEAL, *Chenopodium album*, common lambsquarters
KCHSC, *Bassia scoparia*, kochia
AMARE, *Amaranthus retroflexus*, redroot pigweed
AVEFA, *Avena fatua*, wild oat
ECHCG, *Echinochloa crus-galli*, barnyardgrass

Table 4. Weed control and spring wheat response to herbicides, Kimberly ID

Treatment	Rate (fl oz/a)	7-6-2021 (48 DAT[§]) CHEAL	KCHSC	AMARE	AVEFA	ECHCG	Injury	YIELD bu/acre
		----------%----------						
Untreated[‡]		-	-	-	-	-	-	111 a
Huskie	13.5	90.8a*	92.0a	84.8a	93.3a	89.5a	0a	109a
Axial Bold	15							
Huskie	13.5	96.8a	99.0a	96.8a	99.0a	99.0a	0a	115a
MCPA Ester	8							
Axial Bold	15							
Huskie FX	15.5	99.0a	99.0a	99.0a	99.0a	98.0a	0a	112a
Axial Bold	15							
Talinor	13.7	95.8a	96.8a	86.3a	98.0a	98.0a	0a	114a
Coact+	2.75							
Axial Bold	15							
Opensky	16	95.5a	92.0a	94.5a	95.3a	93.3a	0a	112a
MCPA Ester	8							
Axial Bold	15							

*Within a column, means followed by the same letter are not significantly different at P = 0.05 as determined by Fisher's protected LSD test.
[‡]Untreated treatment(s) 1 excluded from analysis
[§]DAT, days after herbicide treatment

Weed Code:

CHEAL, *Chenopodium album*, common lambsquarters
KCHSC, *Bassia scoparia*, kochia
AMARE, *Amaranthus retroflexus*, redroot pigweed
AVEFA, *Avena fatua*, wild oat
ECHCG, *Echinochloa crus-galli*, barnyardgrass