

# Liberty Tank Mix Combinations for Waterhemp Control (Brooklyn, WI 2020)

## Trial Information

Trial Sponsor: Wisconsin Cropping Systems Weed Science

Objective: Evaluate tank mix combinations of Liberty with Enlist, Basagran, and PPO herbicides for waterhemp control

Crop: Enlist soybean

Variety: P22T86E

Weed species (pressure): Glyphosate-resistant waterhemp (very high)

Herbicide Application(s): PRE – 5/22

POST – 6/24 (V4 soybean)

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For the full report see trial #20-BRO-SB16 in the [2020 Wisconsin Weed Science Research Report](#)



**Cropping Systems Weed Science**

UNIVERSITY OF WISCONSIN-MADISON

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Herbicide Treatment*	APP Timing	Gly-R Waterhemp Control %	
		7/8	9/24
2 oz Valor SX (PRE ONLY)	PRE	64	38
32 fl oz Liberty + 2 lb/a AMS	POST	80	77
12.5 fl oz Cobra + 1% COC + 2 lb/a AMS	POST	80	78
12.5 fl oz Cobra + 32 fl oz Liberty + 2 lb/a AMS	POST	92	81
1 pt Flexstar + 1% COC + 2 lb/a AMS	POST	72	73
1 pt Flexstar + 32 fl oz Liberty + 2 lb/a AMS	POST	87	82
8 fl oz Resource + 1% COC + 2 lb/a AMS	POST	59	56
8 fl oz Resource + 32 fl oz Liberty + 2 lb/a AMS	POST	80	75
0.9 fl oz Cadet + 1% COC + 2 lb/a AMS	POST	40	49
0.9 fl oz Cadet + 32 fl oz Liberty + 2 lb/a AMS	POST	80	74
1.6 pt Basagran + 1% COC + 2 lb/a AMS	POST	11	40
1.6 pt Basagran + 32 fl oz Liberty + 2 lb/a AMS	POST	81	76
32 fl oz Enlist One + 2 lb/a AMS	POST	79	90
32 fl oz Enlist One + 32 fl oz Liberty + 2 lb/a AMS	POST	90	95
	<b>LSD (0.10)</b>	<b>8</b>	<b>9</b>
	<b>p-value</b>	<b>&lt;0.01</b>	<b>&lt;0.01</b>

\*Valor at 2 oz/a was applied PRE to all plots

# Liberty Tank Mix Combinations for Waterhemp Control (Brooklyn, WI 2020)

Herbicide Treatment*	APP Timing	Soybean Injury %		Yield bu/acre
		7 DAT	14 DAT	
2 oz Valor SX (PRE ONLY)	PRE	0	0	44
32 fl oz Liberty + 2 lb/a AMS	POST	4	1	50
12.5 fl oz Cobra + 1% COC + 2 lb/a AMS	POST	37	30	43
12.5 fl oz Cobra + 32 fl oz Liberty + 2 lb/a AMS	POST	36	28	47
1 pt Flexstar + 1% COC + 2 lb/a AMS	POST	20	13	46
1 pt Flexstar + 32 fl oz Liberty + 2 lb/a AMS	POST	20	15	46
8 fl oz Resource + 1% COC + 2 lb/a AMS	POST	23	14	41
8 fl oz Resource + 32 fl oz Liberty + 2 lb/a AMS	POST	23	16	47
0.9 fl oz Cadet + 1% COC + 2 lb/a AMS	POST	22	14	43
0.9 fl oz Cadet + 32 fl oz Liberty + 2 lb/a AMS	POST	19	13	45
1.6 pt Basagran + 1% COC + 2 lb/a AMS	POST	9	3	41
1.6 pt Basagran + 32 fl oz Liberty + 2 lb/a AMS	POST	8	4	48
32 fl oz Enlist One + 2 lb/a AMS	POST	0	1	49
32 fl oz Enlist One + 32 fl oz Liberty + 2 lb/a AMS	POST	3	2	49
Untreated Check	-	0	0	34
	<b>LSD (0.10)</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>p-value</b>	<b>&lt;0.01</b>	<b>&lt;0.01</b>	<b>&lt;0.01</b>

\*Valor at 2 oz/a was applied PRE to all plots



# 33 days after PRE (6/24)

Untreated Check



2 oz Valor





# Liberty Tank Mix Combinations for Waterhemp Control (Brooklyn, WI 2020)

Plot pictures taken on 7/1  
7 days after the POST application

The number in the upper right-hand corner is the average % soybean injury (leaf necrosis/burn)



40 days after PRE (7/1)  
Untreated Check

0%





40 days after PRE (7/1)

PRE: 2 oz Valor SX

0%





7 days after POST (7/1)  
POST: 32 fl oz Liberty + 2 lb/a AMS

4%





7 days after POST (7/1)

POST: 12.5 fl oz Cobra + 1% COC + 2 lb/a AMS

37%





7 days after POST (7/1)

POST: 12.5 fl oz Cobra + 32 fl oz Liberty + 2 lb/a AMS

36%





7 days after POST (7/1)  
POST: 1 pt Flexstar + 1% COC + 2 lb/a AMS

20%





7 days after POST (7/1)

POST: 1 pt Flexstar + 32 fl oz Liberty + 2 lb/a AMS

20%





7 days after POST (7/1)

POST: 8 fl oz Resource + 1% COC + 2 lb/a AMS

23%





7 days after POST (7/1)

POST: 8 fl oz Resource + 32 fl oz Liberty + 2 lb/a AMS

23%





7 days after POST (7/1)

POST: 0.9 fl oz Cadet + 1% COC + 2 lb/a AMS

22%





7 days after POST (7/1)

POST: 0.9 fl oz Cadet + 32 fl oz Liberty + 2 lb/a AMS

19%





7 days after POST (7/1)

POST: 1.6 pt Basagran + 1% COC + 2 lb/a AMS

9%





7 days after POST (7/1)

POST: 1.6 pt Basagran + 32 fl oz Liberty + 2 lb/a AMS

8%





7 days after POST (7/1)  
POST: 32 fl oz Enlist One + 2 lb/a AMS

0%





7 days after POST (7/1)

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 2 lb/a AMS

3%





# Liberty Tank Mix Combinations for Waterhemp Control (Brooklyn, WI 2020)

Plot pictures taken on 7/8  
14 days after the POST application

The number in the upper right-hand corner is the average % gly-R waterhemp control of 4 replications



47 days after PRE (7/8)  
Untreated Check

0%





47 days after PRE (7/8)

PRE: 2 oz Valor SX

64%





14 days after POST (7/8)  
POST: 32 fl oz Liberty + 2 lb/a AMS

80%





14 days after POST (7/8)

POST: 12.5 fl oz Cobra + 1% COC + 2 lb/a AMS

80%





14 days after POST (7/8)

POST: 12.5 fl oz Cobra + 32 fl oz Liberty + 2 lb/a AMS

92%





14 days after POST (7/8)

POST: 1 pt Flexstar + 1% COC + 2 lb/a AMS

72%





14 days after POST (7/8)

POST: 1 pt Flexstar + 32 fl oz Liberty + 2 lb/a AMS

87%





14 days after POST (7/8)

POST: 8 fl oz Resource + 1% COC + 2 lb/a AMS

59%





14 days after POST (7/8)

POST: 8 fl oz Resource + 32 fl oz Liberty + 2 lb/a AMS

80%





14 days after POST (7/8)

POST: 0.9 fl oz Cadet + 1% COC + 2 lb/a AMS

40%





14 days after POST (7/8)

POST: 0.9 fl oz Cadet + 32 fl oz Liberty + 2 lb/a AMS

80%





14 days after POST (7/8)

POST: 1.6 pt Basagran + 1% COC + 2 lb/a AMS

11%





14 days after POST (7/8)

POST: 1.6 pt Basagran + 32 fl oz Liberty + 2 lb/a AMS

81%





14 days after POST (7/8)  
POST: 32 fl oz Enlist One + 2 lb/a AMS

79%





14 days after POST (7/8)

POST: 32 fl oz Enlist One + 32 fl oz Liberty + 2 lb/a AMS

90%





# Liberty Tank Mix Combinations for Waterhemp Control (Brooklyn, WI 2020)

Plot pictures taken on 10/9  
Day of soybean harvest

The number in the upper right-hand corner is the average % gly-R waterhemp control of 4 replications















**Soybean Harvest (10/9)**

**POST: 12.5 fl oz Cobra + 1% COC + 2 lb/a AMS**

**78%**









**Soybean Harvest (10/9)**

**73%**

**POST: 1 pt Flexstar + 1% COC + 2 lb/a AMS**





**Soybean Harvest (10/9)**

**82%**

**POST: 1 pt Flexstar + 32 fl oz Liberty + 2 lb/a AMS**









**Soybean Harvest (10/9)**

**POST: 8 fl oz Resource + 32 fl oz Liberty + 2 lb/a AMS**

**75%**









**Soybean Harvest (10/9)**

**74%**

**POST: 0.9 fl oz Cadet + 32 fl oz Liberty + 2 lb/a AMS**

















