Bayer Low Tunnel Volatility Study

Summary of 20-ARL-SB22 study

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Cropping Systems Weed Science

UNIVERSITY OF WISCONSIN-MADISON

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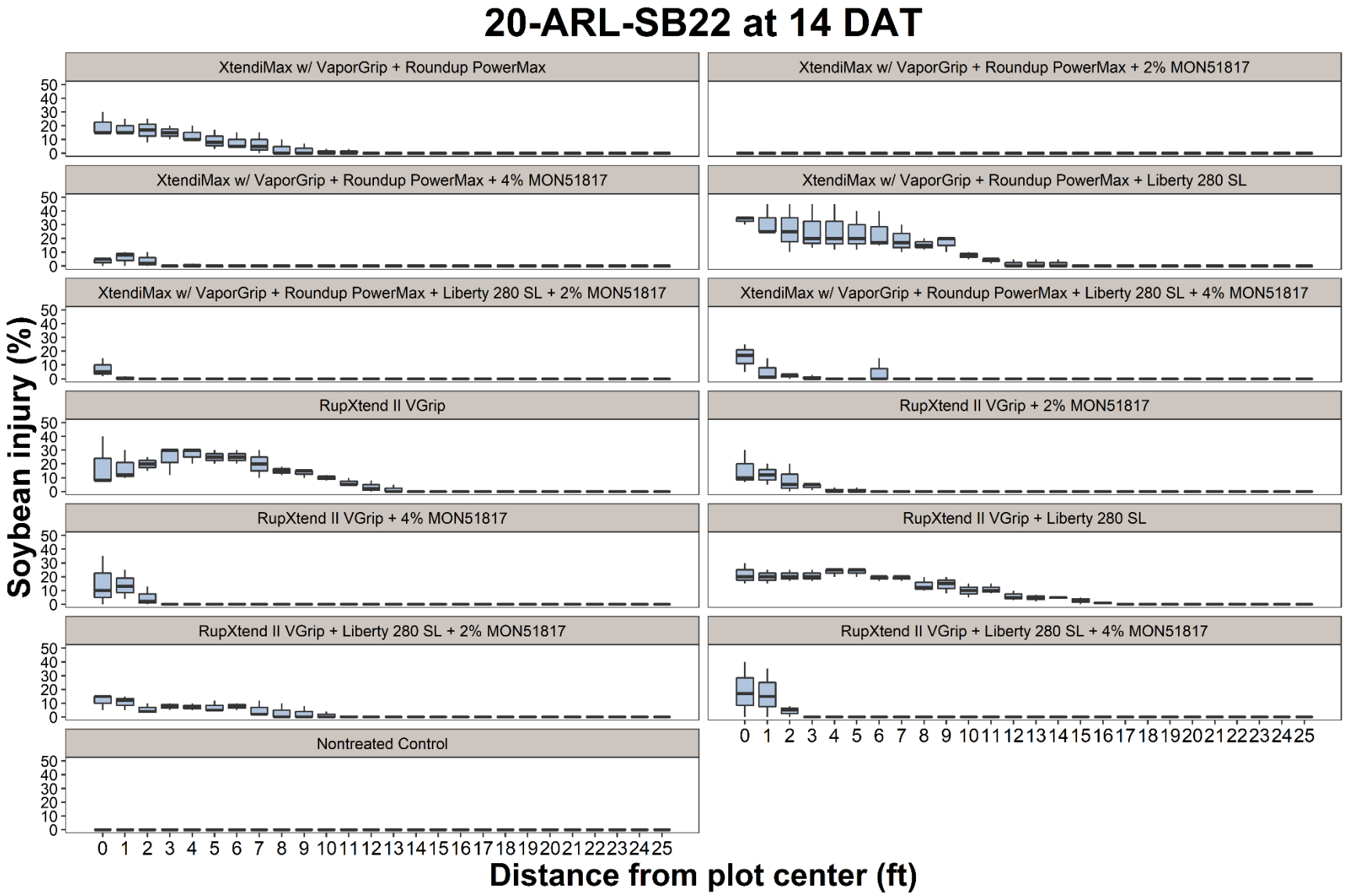
Methods

- Soybean variety: CZ 1549GTLL
- Soybean seeding rate: 140,000 seeds ac^{-1} at 1.5" depth
- Soybean row width: 30" row width
- Soybean planting date: June 8
- Plot maintenance:
  - PRE herbicide treatment – June 8, 2 pts ac^{-1} Prefix
  - POST herbicide treatment – DATE, 22 fl oz ac^{-1} Roundup PowerMax + 8.5 lbs AMS/100 gal
- Herbicide treatment (flats): 9:00 to 10:05 am July 8
- Soybean stage at flat application: V4
- Flat removal from low-tunnel: 8:30 to 10:05 am July 10
- Results presented at 14 and 28 days after treatment (DAT)
- Photos taken at 28 DAT

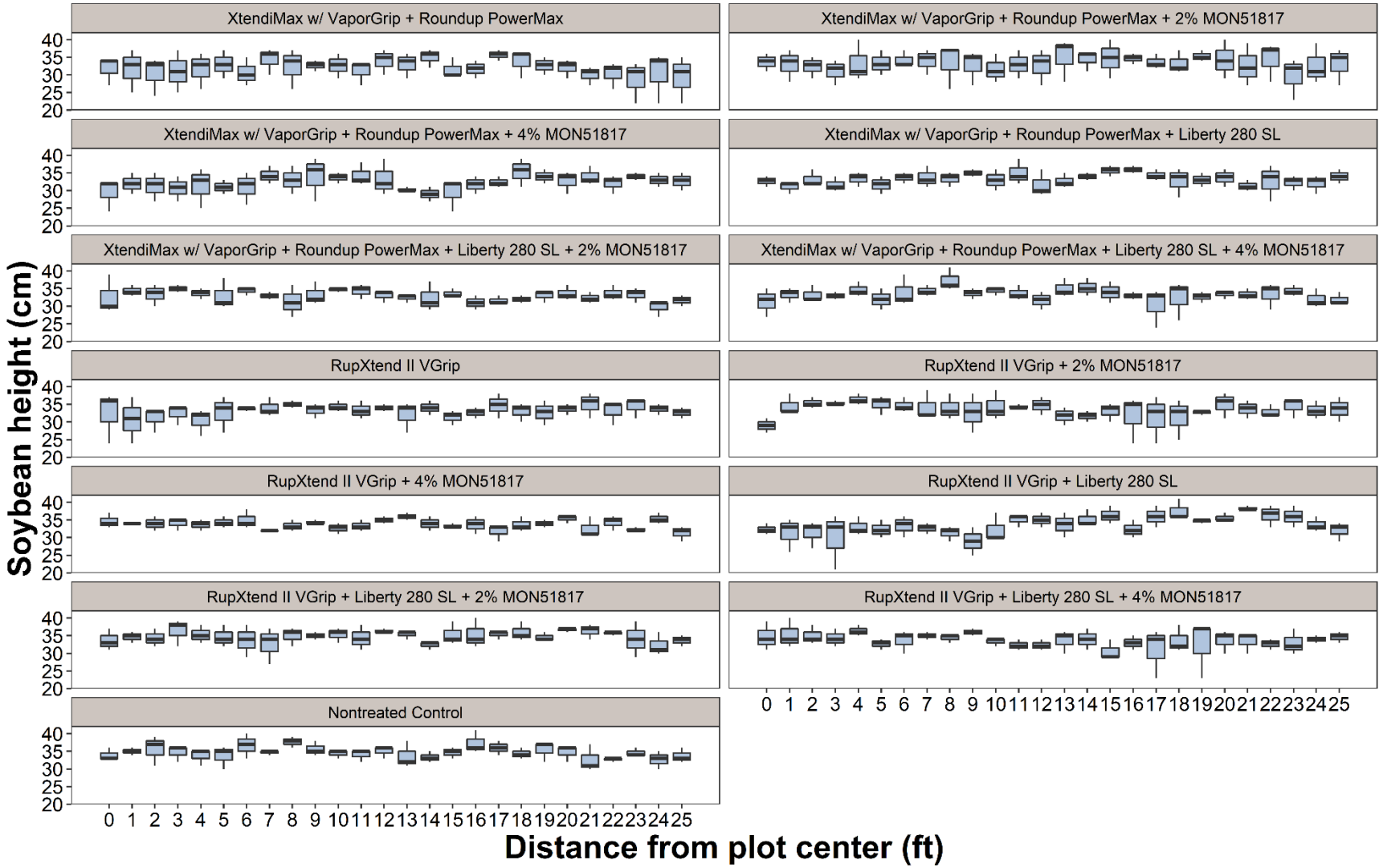
Table 1. Weather conditions in the 48 h period of flat placement under the low tunnels at the University of Wisconsin-Madison Arlington Agriculture Research Station.

Date	Soil Flat Temp (F)			Temp at 6 in (F)			Temp at 27 in (F)			Relative Humidity (%)			Air Temp (1 m; F)			Rainfall (in)
	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	
0-24 h	84.7	106.4	69.3	80.1	93.5	68.1	79.9	92.5	68.2	80.8	96.4	61.0	78.8	89.8	67.8	0.0
24-48 h	76.7	103.1	66.1	74.5	96.5	65.6	74.2	96.6	65.8	89.8	98.5	66.8	71.7	88.4	65.0	3.0

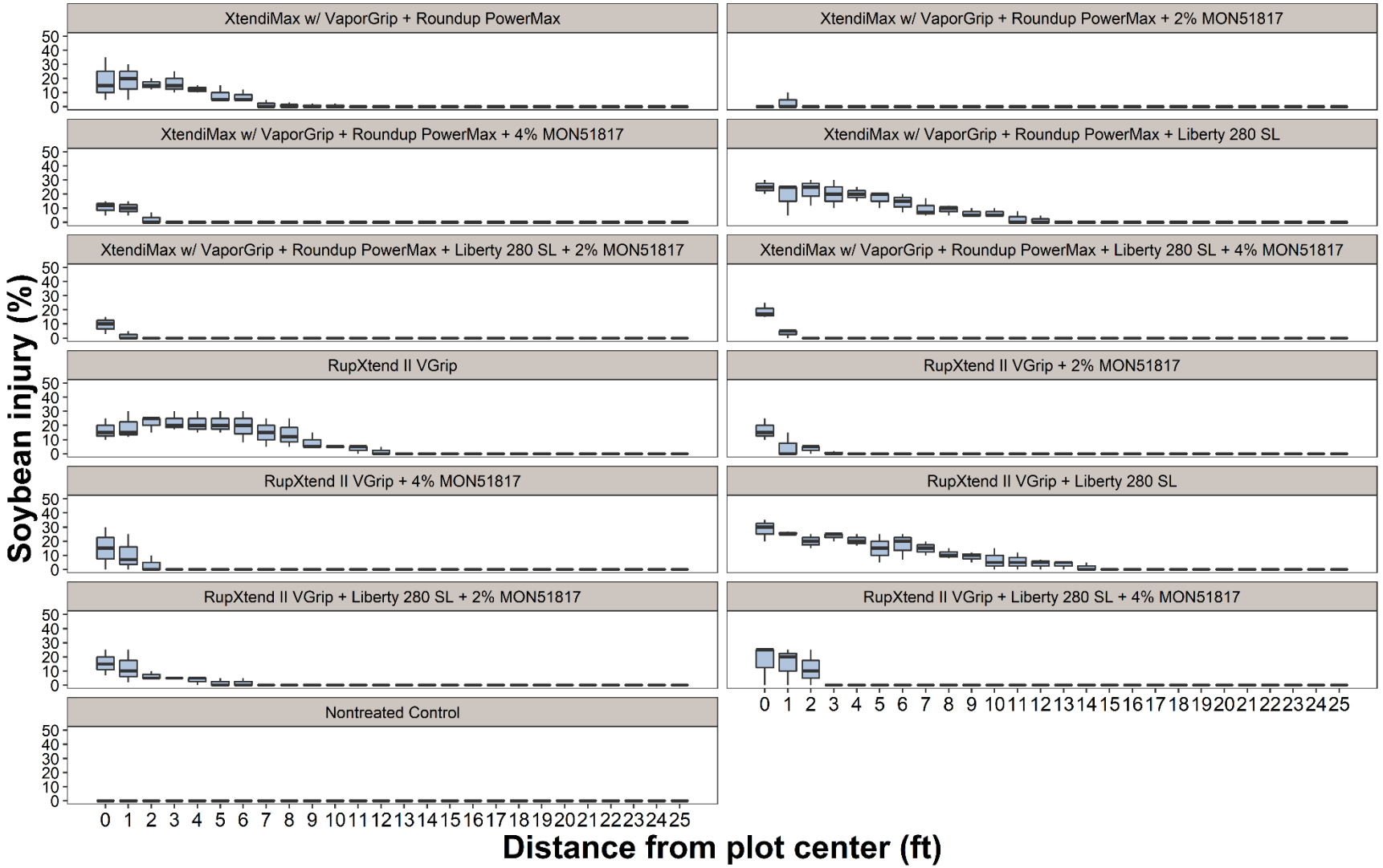
Results



Source: University of Wisconsin-Madison Cropping Systems Weed Science, 2020

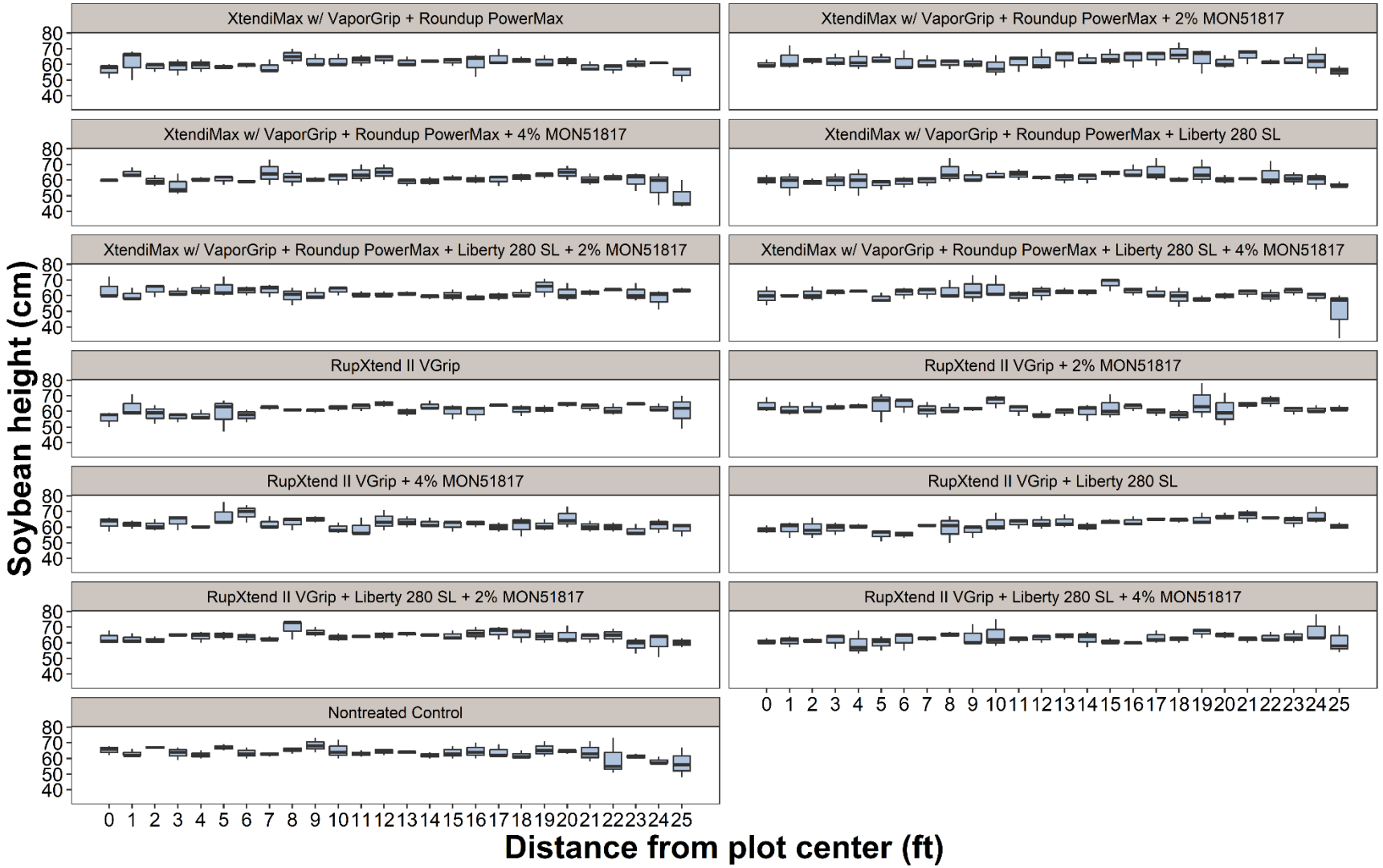

20-ARL-SB22 at 14 DAT
XtendiMax w/ VaporGrip + Roundup PowerMax
XtendiMax w/ VaporGrip + Roundup PowerMax + 2% MON51817
XtendiMax w/ VaporGrip + Roundup PowerMax + 4% MON51817
XtendiMax w/ VaporGrip + Roundup PowerMax + Liberty 280 SL
XtendiMax w/ VaporGrip + Roundup PowerMax + Liberty 280 SL + 2% MON51817
XtendiMax w/ VaporGrip + Roundup PowerMax + Liberty 280 SL + 4% MON51817
RupXtend II VGrip
RupXtend II VGrip + 2% MON51817
RupXtend II VGrip + 4% MON51817
RupXtend II VGrip + Liberty 280 SL
RupXtend II VGrip + Liberty 280 SL + 2% MON51817
RupXtend II VGrip + Liberty 280 SL + 4% MON51817
Nontreated Control
Soybean height (cm)
20 25 30 35 40
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
Distance from plot center (ft)

20-ARL-SB22 at 28 DAT



Source: University of Wisconsin-Madison Cropping Systems Weed Science, 2020

20-ARL-SB22 at 28 DAT



Source: University of Wisconsin-Madison Cropping Systems Weed Science, 2020

Table 2. Sum of soybean stand count, sum of injured plants and the % of injured soybean plants 14 and 28 days after treatment in the three replications within 25 ft quadrant at the University of Wisconsin-Madison Arlington Agriculture Research Station.

Treatment	Stand count	Injured plants		%, Injured plants	
		14	28	14	28
XtendiMax with VaporGrip + Roundup PowerMax	143	45	54	32.5	40.3
XtendiMax with VaporGrip + Roundup PowerMax + 2% MON 51817 - VaporGrip	164	0	0	0.0	0.0
XtendiMax with VaporGrip + Roundup PowerMax + 4% MON 51817 - VaporGrip	161	9	10	5.4	6.5
XtendiMax with VaporGrip + Roundup PowerMax + Liberty 280 SL	152	80	81	52.5	53.1
XtendiMax with VaporGrip + Roundup PowerMax + Liberty 280 SL + 2% MON 51817 - VaporGrip	159	4	7	2.7	4.4
XtendiMax with VaporGrip + Roundup PowerMax + Liberty 280 SL + 4% MON 51817 - VaporGrip	154	6	6	4.0	3.8
MON 301286 – RupXtend II VGrip	142	69	72	48.6	50.3
MON 301286 – RupXtend II VGrip + 2% MON 51817 - VaporGrip	155	9	14	5.6	8.5
MON 301286 – RupXtend II VGrip + 4% MON 51817 - VaporGrip	153	6	7	4.1	4.8
MON 301286 – RupXtend II VGrip + Liberty 280 SL	150	81	80	53.3	53.3
MON 301286 – RupXtend II VGrip + Liberty 280 SL + 2% MON 51817 - VaporGrip	153	43	42	28.4	27.3
MON 301286 – RupXtend II VGrip + Liberty 280 SL + 4% MON 51817 - VaporGrip	155	11	11	6.8	7.1
Nontreated Check	154	0	0	0.0	0.0

Figure 1. XtendiMax with VaporGrip + Roundup PowerMax at 28 DAT.

Figure 2. XtendiMax with VaporGrip + Roundup PowerMax + 2% MON 51817 – VaporGrip at 28 DAT.

Figure 3. XtendiMax with VaporGrip + Roundup PowerMax + 4% MON 51817 – VaporGrip at 28 DAT.

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Figure 13. Nontreated Check at 28 DAT.