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## A Method of Checking a Weed Sprayer in the Field

South Dakota Agricultural Experiment Station

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# A Method of Checking a Weed Sprayer in the Field

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## A Method of Checking a Weed Sprayer in the Field

It is important that the sprayer operator know exactly how many gallons of spray solution are being applied to the acre. A procedure for calibrating a weed sprayer is outlined in Experiment Station Circular No. 69. Since the speed of the tractor may vary between fields, it is necessary to re-check the output of the sprayer for each field. A simple method of field checking the sprayer is presented in this pamphlet.

1. Select an area for the test run similar to the area to be sprayed and measure a distance of  $\frac{1}{4}$  mile or 1320 feet accurately.

2. Place the sprayer on level ground and fill the tank with water to the brim or to a pre-determined height on a measuring stick.

3. Operate the sprayer at a speed and pressure recommended for use of the nozzles at a given rate of application.

4. Return sprayer to the original filling point and measure the water required to refill sprayer to pre-determined height.

5. Refer to table to determine gallons applied per acre. (1) Locate length of sprayer boom in left hand column of table, then by looking directly across this line, and under the number of gallons applied per  $\frac{1}{4}$  mile in the test run—the number of gallons applied per acre at this rate will be found. Ex.—If 3 gallons were applied in the test run, and the boom length was 16 feet, the amount applied per acre would be 6.2 gallons.

GALLONS APPLIED PER  $\frac{1}{4}$  MILE TEST RUN (Short Boom)

Length of boom in feet	2	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	11	12	13	14
1*	66.0	82.5	99.0	115.5	132.0	148.5	165.0	181.5	198.0	214.5	231.0	247.5	264.0	280.5	297.0	313.5	330.0	363.0	396.0	429.0	462.0
14	4.7	5.9	7.1	8.3	9.4	10.6	11.8	12.9	14.1	15.3	16.5	17.7	18.8	20.0	21.2	22.4	23.6	26.0	28.2	30.6	33.0
15	4.4	5.5	6.6	7.7	8.8	9.9	11.0	12.1	13.2	14.3	15.4	16.5	17.6	18.7	19.8	20.9	22.0	24.2	26.4	28.6	30.8
16	4.1	5.2	6.2	7.2	8.3	9.3	10.3	11.3	12.4	13.4	14.5	15.5	16.5	17.5	18.6	19.6	20.6	22.7	24.8	26.9	29.0
18	3.7	4.6	5.5	6.4	7.3	8.3	9.2	10.1	11.0	11.9	12.8	13.8	14.7	15.6	16.5	17.4	18.3	20.2	22.0	23.8	25.6
20	3.3	4.1	5.0	5.8	6.6	7.4	8.3	9.1	9.9	10.7	11.5	12.4	13.2	14.0	14.9	15.7	16.5	18.2	19.8	21.5	23.0
22	3.0	3.7	4.5	5.3	6.0	6.8	7.5	8.3	9.0	9.8	10.5	11.3	12.0	12.8	13.5	14.3	15.0	16.5	18.0	19.5	21.0
24	2.8	3.4	4.1	4.8	5.5	6.2	6.9	7.6	8.3	9.0	9.6	10.3	11.0	11.7	12.4	13.1	13.8	15.1	16.5	17.9	19.2

GALLONS APPLIED PER  $\frac{1}{4}$  MILE TEST RUN (Long Boom)

	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	11	12	13	14	15	16	18	20
26	5.1	5.7	6.4	7.0	7.6	8.3	8.9	9.5	10.1	10.8	11.4	12.0	12.7	14.0	15.1	16.5	17.8	19.1	20.3	22.8	25.4
28	4.7	5.3	5.9	6.5	7.1	7.7	8.3	8.9	9.4	10.0	10.6	11.2	11.8	13.0	14.1	15.3	16.5	17.8	18.8	21.2	23.6
30	4.4	5.0	5.5	6.1	6.6	7.2	7.7	8.3	8.8	9.4	9.9	10.4	11.0	12.1	13.2	14.3	15.4	16.6	17.6	19.8	22.0
32	4.1	4.7	5.2	5.7	6.2	6.7	7.2	7.8	8.3	8.8	9.3	9.8	10.3	11.3	12.3	13.4	14.4	15.6	16.5	18.6	20.6
36	3.7	4.1	4.6	5.1	5.5	6.0	6.4	6.9	7.4	7.8	8.3	8.7	9.2	10.1	11.0	11.9	12.8	13.8	14.8	16.6	18.4
40	3.3	3.7	4.1	4.5	5.0	5.4	5.8	6.2	6.6	7.0	7.4	7.8	8.3	9.1	9.9	10.7	11.5	12.4	13.2	14.9	16.5

\*The gallons per acre for any boom length not listed can be determined by dividing the length of the boom in feet into the gallons per acre for a boom one foot long.