

Aircraft Calibration

Acres Per Minute



Formula: **Acres Per Minute = $\frac{2 \times \text{swath width} \times \text{miles per hour}}{1,000}$**

The chart below shows the rate (in acres per minute) at which spray or dry material can be applied when swath width and speed of aircraft are known. For swath widths or aircraft speeds other than those shown, interpolate or use combinations of the figures shown. To find the rate of flow in gallons per minute or pounds per minute, multiply the acres per minute by the number of gallons or pounds per acre to be applied.

Example: A 100 mph aircraft has a 40 foot effective swath. Follow the vertical 40 foot column down until the figure opposite 100 mph is intersected. The aircraft would cover 8.0 acres per minute. If one gallon of spray is to be applied per acre, the aircraft should be calibrated to disperse liquid at the rate of 1 x 8.0 or 8.0 gallons per minute. If 10 pounds of dry material is to be applied per acre, the aircraft should be calibrated to disperse material at the rate of 10 X 8.0 or 80 pounds per minute.

Speed MPH	30' Swath	35' Swath	40' Swath	45' Swath	50' Swath	75' Swath	100' Swath	200' Swath	300' Swath	500' Swath
75	4.5	5.2	6.0	6.7	7.5	11.2	15.0	30.0	45.0	75.0
80	4.8	5.6	6.4	7.2	8.0	12.0	16.0	32.0	48.0	80.0
85	5.1	5.9	6.8	7.6	8.5	12.7	17.0	34.0	51.0	85.0
90	5.4	6.3	7.2	8.1	9.0	13.5	18.0	36.0	54.0	90.0
95	5.7	6.6	7.6	8.5	9.5	14.2	19.0	38.0	57.0	95.0
100	6.0	7.0	8.0	9.0	10.0	15.0	20.0	40.0	60.0	100.0
110	6.6	7.7	8.8	9.9	11.0	16.5	22.0	44.0	66.0	110.0
120	7.2	8.4	9.6	10.8	12.0	18.0	24.0	48.0	72.0	120.0
130	7.8	9.1	10.4	11.7	13.0	19.5	26.0	52.0	78.0	130.0
140	8.4	9.8	11.2	12.6	14.0	21.0	28.0	56.0	84.0	140.0
150	9.0	10.5	12.0	13.5	15.0	22.5	30.0	60.0	90.0	150.0

Computation of Acreage and Materials

Formula: **Acres Covered = $\frac{\text{Length of swath in miles} \times \text{width in feet}}{8.25}$**

The number of acres in a swath of given width and length can be determined from the chart below.

To determine the amount of pesticide required, multiply the acres by the desired rate of application.

Example: An aircraft with a 40 foot effective swath treats a one mile long strip. To find the number of acres, follow the 40 foot vertical column down until it intersects the one mile line. The answer to the nearest tenth is 4.8 acres. For swath widths other than those shown, interpolate or use combinations of the figures shown.

Swath Length (Miles)	30' Swath	35' Swath	40' Swath	45' Swath	50' Swath	75' Swath	100' Swath	200' Swath	300' Swath	500' Swath
1/4	.9	1.1	1.2	1.4	1.5	2.3	3.0	6.1	9.1	15.2
1/2	1.8	2.1	2.4	2.7	3.0	4.5	6.1	12.1	18.2	30.3
3/4	2.7	3.2	3.6	4.1	4.6	6.8	9.1	18.2	27.3	45.4
1	3.6	4.2	4.8	5.5	6.1	9.1	12.1	24.2	36.4	60.6
2	7.2	8.4	9.8	10.9	12.1	18.2	24.2	48.5	72.7	121.2
3	10.8	12.6	14.5	16.4	18.2	27.3	36.4	72.7	109.1	181.8
4	14.4	16.8	19.4	21.8	24.2	36.4	48.5	97.0	145.4	242.4
5	18.0	21.0	24.2	27.3	30.3	45.5	60.6	121.1	181.8	303.0