

# GRANULAR HERBICIDES

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One of the more recent developments in weed control chemicals or materials is the granular herbicides. Tests on Long Island and also in Massachusetts have shown granular applications to be safe and effective on gladiolus. All that is necessary is to calibrate a fertilizer spreader and then run over the area to be treated. On a small scale, a grower could also put the amount required to cover the area in a spreader and using a low setting, go over the area repeatedly until the material is used up.

Granular herbicides are ideal for post-emergence treatments as most of the material falls to the ground and does not affect the foliage. If desirable, a piece of burlap could be dragged over the plants to shake off any residue. Soil moisture breaks down clay granules and rainfall leaches the herbicide from vermiculite particles thereby bringing the herbicide in contact with the weeds. This is safer than liquid applications where the herbicides may adhere to and affect the foliage.

Granular herbicides are spread over the ground or plants in the same manner as fertilizer or granular insecticides. It is necessary to put on sufficient granular material to carry enough of the herbicide to the soil surface. If the granules are too concentrated and consequently far apart, inadequate coverage of the soil by the herbicide may result. If low concentration formulations are used, larger amounts of granules are therefore used and the job becomes more expensive

TABLE A

Rates of Application of Granular Herbicides

Pounds active Ingredient Per acre	Pounds of Granular to Apply Per Acre					
	1%	2%	4%	5%	8%	10%
1/2	50	25	12.5	10	6.3	5
3/4	75	37.5	18.8	15	9.4	7.5
1	100	50	25	20	12.5	10
1 1/2	150	75	37.5	30	18.8	15
2	200	100	50	40	25	20
3	300	150	75	60	37.5	30
4	400	200	100	80	50	40
5	500	250	125	100	62.5	50
10	1000	500	250	200	125	100

TABLE B

Rates of Application of Granular Herbicides

Pounds Granular Per acre	Pounds Granular per			
	100 sq. ft.	200 sq. ft.	400 sq. ft.	1000 sq. ft.
5	0.01	0.02	0.05	0.12
10	0.02	0.05	0.09	0.23
50	0.12	0.23	0.45	1.2
100	0.23	0.45	0.9	2.3
200	0.46	0.9	1.8	4.6

because of the greater bulk handled. Rates of application depend to some extent upon equipment available. In general materials required in lesser amounts come in lower concentrated forms and materials required in higher concentrations are formulated in higher strength granules.

### Calibrating the Spreader

A grower wants to apply 100 pounds of 4% granular material per acre on rows of bulbets. Table B shows that this is equivalent to 0.23 pounds per 100 square feet. If an 18" lawn spreader is used, take a piece of wrapping paper over 18" wide and run the spreader over it using different settings and weighing the amounts delivered on 100 square feet by running the spreader over the same area several times to cover a total of 100 square feet. The setting delivering 0.23 pounds on the 100 square feet (see Table B) is the desired one. Another method is to find how much is necessary to cover a given area to be equivalent to the rate desired. For example the 100 pounds per acre of 4% granular material, with an 18 inch (1 1/2 ft.) spreader on paper 1 1/2 x 13.2 ft. (20 sq. ft.), needs  $\frac{0.23 \times 20 \text{ lbs.}}{100}$

livery to equal a rate of .23 lbs. per 100 sq. ft. or 100 lbs. per acre. This reduces to .23/5 lbs. or 0.74 oz. The setting that delivers 0.74 or 3/4 oz. on the paper 18 inches by 13.2 will deliver the granular material at 100 lbs. per acre. Once the setting is determined, fill the spreader set at the desired opening and run over the area at the same speed as in the calibration run.