

**Rate Guidelines for Poly Stainless Fertilizer Hopper
Models 09PDMS (1, 2, 3 or 4 Outlets)**



Input of drive for this chart is 4 revolutions in 88 feet, or 4 rpm. Other drive inputs will yield different results. Variables such as density, humidity, voltage, and formulation will affect rates, so always calibrate the material before application.

If ground driven, this positive displacement hopper is speed compensating for changes in field speed. If electric motor drive is used, operator must maintain uniform field speed to achieve rate per acre.

Sprocket Combination (09099930 pkg w/chain guard)		Red Wheel (F) Output (1 outlet at spacing indicated)		Yellow Wheel (V) Output (1 outlet at spacing indicated)	
Driver Sprocket	Driven Sprocket	Spacing 24"	Spacing 27"	Spacing 24"	Spacing 27"
8	34 (Low Range)	18 lb/A	16 lb/A	32 lb/A	28 lb/A
16	16 (Medium)	77 lb/A	68lb/A	135 lb/A	119lb/A
34	8 (High)	300 lb/A	265 lb/A	534 lb/A	470 lb/A

The drive input of 4 revolutions in 88 feet (the distance traveled in 1 minute) is achieved with the Gandy ground drive using 18T outboard bearing sprocket, or 12-volt 1/64 hp motor with 32T sprocket. The 1/32 hp motor turns at a 20% higher speed.

A complete installation of a poly stainless hopper consists of:

- 1) One or more hoppers, 2.3 cu ft capacity each; selected with from one to four outlets, U-frame included for bolting to upright mounting.
(Ex: 09PS1F, 09PS2F, 09PS3F, 09PS4F w/ Red Wheels in place)
(09PS1V, 09PS2V, 09PS3V, 09PS4V w/ Yellow Wheels in place)
- 2) Rate setting sprocket cluster (09099930).
[Package has 12 sprockets; chart shows only low, middle and high combinations]
One set can govern multiple hoppers mounted in line with sprocket placed on central hopper.
- 3) Drive
 - a) Ground drive (09094903 with 8" tire, or 0905916 with 12"
 - b) Electric motor (09099934 1/64 hp motor can drive 2 hoppers)
(1/32 hp motor can be substituted for higher input rpm and to drive 3 hoppers)
- 4) Connectors for multiple hoppers in line are available in 40" & 80" packages (09074321 & 089074323)
- 5) 1-1/2" tubing
 - a) Ordered to length in foot increments (M06-1500-010)
 - b) or User supplied
- 6) Hose clamps
 - a) Order for number of outlets (M11-0024-000)
 - b) or User supplied
- 7) Mounting
 - a) Gandy mounting (see standard Ag Catalog or website www.gandy.net for available options)
 - b) or User supplied

Poly Stainless Fertilizer Hopper

Rate Charts & Calibration Procedures

IMPORTANT: Rate charts are derived from factory calibrations made with the currently available products. It is always recommended that the individual user check the actual output of his unit on site as variations do occur in formulations, density and atmospheric conditions that affect the flow characteristics of locally available products. The user is also cautioned to make certain he is reading the correct chart and column for this product, metering wheels, and row spacing. For a variety of fertilizers and other products not available, follow the below procedure.

1. For ground-driven units, set up test course using two stakes placed 436 feet apart (or fraction thereof). For electric motor-driven units, use a watch to determine time of travel, noting the below chart that shows distance traveled in one minute at the various field speeds.

1 mph	2 mph	3 mph	4 mph	5 mph	6 mph	7 mph	8 mph	9 mph	10 mph
88	176	264	652	440	528	616	704	792	880

2. Read the label and cautionary statements of the material you are using. Determine the rate you need to apply in pounds per acre (lb/A) or oz. per 1,000 ft. of row.
3. Select a sprocket combination to use on the drive and driven (metering shaft) on the applicator for an estimated output. See the guideline sheet. Note the sprocket ratio for a mathematical estimate.
4. Place a plastic bag around two or more outlets.
5. Travel the 436-foot course at normal speed or run the motor for selected minute(s).
6. Weigh the total contents of the bags in pounds.
7. Divide weight collected in pounds by width of coverage in sq. feet and multiply by 100 to get pounds per broadcast acre.
8. Change either of the drive/driven sprockets, if needed, noting the guidelines to determine whether an increase or decrease in ratio is in order, and repeat steps 4 through 8.
Example: Collecting from 2 outlets with 24" spacing and traveling 436 feet, you collect 8 pounds.
 $(8 \text{ lb} \div 872 \text{ sq. ft. (@ 24" spacing)}) = .009 \times 100 = 1 \text{ lb/acre}$
9. For electric motor calibrations, run the motor for the length of time it takes to travel 436 feet or other fraction of an acre.

Conversion For Metric Rates (kg/hectare)

1. Determine ground speed in miles per hour.

2 miles per hour	=	3.2 kilometers per hour
3 miles per hour	=	4.8 kilometers per hour
4 miles per hour	=	6.4 kilometers per hour
5 miles per hour	=	8.0 kilometers per hour
6 miles per hour	=	9.7 kilometers per hour
7 miles per hour	=	11.3 kilometers per hour
8 miles per hour	=	12.9 kilometers per hour
9 miles per hour	=	14.5 kilometers per hour
10 miles per hour	=	16.1 kilometers per hour

2. Determine rate in pounds per acre.

Multiply your rate in kilograms per hectare by 0.89 to obtain rate in pounds per acre. Use this number when following the instructions on the front cover.

Legal Equivalents adopted by Act of Congress, July 28, 1866

Length

1 Centimeter	=	0.3937 inches
1 Meter	=	39.37 inches = 3.28 feet
1 Kilometer	=	0.621 statute miles
1 Inch	=	2.540 centimeters
1 Foot	=	30.48 centimeters
1 Yard	=	0.914 meters
1 Rod (16.5 ft)	=	5.029 meters
1 Statute mile (5280 ft)	=	1.61 kilometers

Area

1 Hectare (10,000 sq m)	=	2.471 Acres
1 Acre	=	0.405

Weight

1 Gram	=	0.035 ounces
1 Kilogram	=	2.205 pounds
1 Ounce	=	28.35 grams
1 Pound	=	0.4536 kilograms

Weight per Area

1 Pound per Acre	=	1.120 kilograms per hectare
1 Kilogram per Hectare	=	0.892 pounds per acre
1 Ounce per 1000 ft	=	9.30 grams per 100 meter

Weight per Area with speed change

1 Ounce per 1000 ft @ 1 mph = 14.88g/100 meters @ 1 kph