

# fact file: broadcast nozzles

## PRODUCT BROADCAST NOZZLES

### For the application of Nitrosol and PhloLime

#### Large Broadcast Nozzle for tractors - 4 mm orifice

Manufactured in industrial grade plastic, the large broadcast nozzle is an efficient and inexpensive device that will enable application of Nitrosol and PhloLime to pasture. To operate, it requires a PTO powered diaphragm pump capable of 30 - 40 psi and with sufficient throughput to feed the nozzle with 12 litres per minute plus retain strong circulation within the spray tank. The large broadcast nozzle will achieve a swath width of 6 - 7 metres at a pressure of 30 - 40 psi and a throughput of around 12 litres per minute. (See table over.)

The large broadcast nozzle should be mounted at the back of the tractor so that it is situated 900 mm above ground level in the operational position. It should be positioned facing rearwards with the threaded part pointing towards the ground. The thread is 1/2 inch BSP, for which fittings are commonly available from hardware and plumbing supply merchants.

PhloLime has a specific gravity of 1.7 and therefore the pump will need to be in good working order to spray effectively and ensure the contents of the spray tank remain in suspension.

#### Dilution

For application, the dilution of both Nitrosol and PhloLime is unimportant. The key consideration is to apply the desired amount of both products to the required area and the amount of water should be as much as is needed to ensure the correct coverage. The more water the better the result will be, but if application is followed by rain, irrigation or a heavy dew, then this means that less water may be applied during application of product.

Nitrosol and PhloLime may be applied together but always ensure that Nitrosol is the last ingredient added to the spray tank.

Dilution can be varied to suit the vehicle speed, swath width and spray rate of the application equipment. Groundspray equipment may use a dilution anywhere between 1:10 and 1:50. To ensure adequate mixing, have the recirculating system running vigorously while adding water then PhloLime first and finally Nitrosol to the tank.

#### Small Broadcast Nozzle for quad bikes - 2 mm orifice

This nozzle is made from industrial grade plastic and is designed for use on a quad bike or similar vehicle that uses a 12 volt pump connected to the vehicle battery as a power source. It is supplied with a screw on brass hose tail that allows for easy attachment to a metal bracket at the back of the vehicle. It should be fitted so that it is 900 mm above the ground in the operating position and facing rearwards with the hose tail pointing at the ground.

The small broadcast nozzle will give a swath width of 4 - 5 metres provided the pump will produce 10 - 20 psi and a throughput of 2 - 3 litres per minute. **This nozzle is eminently suitable for application of Nitrosol but will not usually handle PhloLime.** This is because most 12 volt pumps are not sufficiently powerful to handle PhloLime that has a specific gravity of 1.7.

#### How to calculate coverage and dilution

Fill or even half-fill the spray tank with water. Go to a paddock of known size, select a gear and speed that will be comfortable, spray the tank of water and assess the area covered. Alternatively one hectare equals 10,000 square metres, so pace out the area covered by the amount of water sprayed and relate the area covered to the desired application rate of Nitrosol and PhloLime. For example if one tankful covers two hectares and you desire to apply 40 litres of PhloLime and 20 litres of Nitrosol per hectare, simply add 80 litres of PhloLime and 40 litres of Nitrosol to the tank while filling it with water.

**Nitrosol**  
Original  
**Nitrosol**  
Oceanic  
**Nitrosol**  
Organic

#### about nitrosol

Nitrosol is a one step colloidal liquid suspension organic based fertiliser containing:

- A balanced NPK (8.3.6.) to feed through both foliage and roots.
- A balanced formulation of trace elements and minerals to address deficiencies and imbalances.
- Organic matter including protein, amino acids, albumin, globulin and cholesterol to feed and nurture the organic activity in the soil.
- Two naturally occurring growth promotants to stimulate plants to take up and use all the available nutrients, trace elements and minerals.

#### nitrosol original

Made from ovine (sheep) blood and bone, Nitrosol Original has been widely used since 1971. It has gained an enviable reputation for producing strong, healthy, disease resistance plants as well as top quality flowers, fruit and vegetables.

#### nitrosol oceanic

Nitrosol Oceanic is made from organic material sourced from deep-sea fishing operations. It is ideal for use on pastoral grazing land with no stock withholding period, and in horticulture. Nitrosol Oceanic has the same typical analysis and will produce the same results as Nitrosol Original.

#### nitrosol organic

Nitrosol Organic has been certified by AsureQuality for permitted use in agriculture and horticulture by certified organic growers. With a higher organic content, Nitrosol Organic will help to produce healthy biologically active soil as well as highly nutritious and flavoursome fruit and vegetables. It will also help to produce healthy feed for grazing animals.

**PHLOLIME**

#### about pholime

PhloLime sprayable rapid action lime will help to raise the pH and sweeten the soil adding calcium, one of the most important minerals for healthy soil, plants, animals and humans. PhloLime contains 98% calcium carbonate on a dry matter basis. With an average particle size of only 9 microns, PhloLime will move into the soil profile rapidly where it can begin to raise the pH. It can be applied in conjunction with Nitrosol

Telephone 0800 80 30 60 for more information

CONTINUED OVERLEAF



NITROSOL LIQUID FERTILISERS ARE MANUFACTURED AND MARKETING BY RURAL RESEARCH LIMITED

www.nitrosol.com

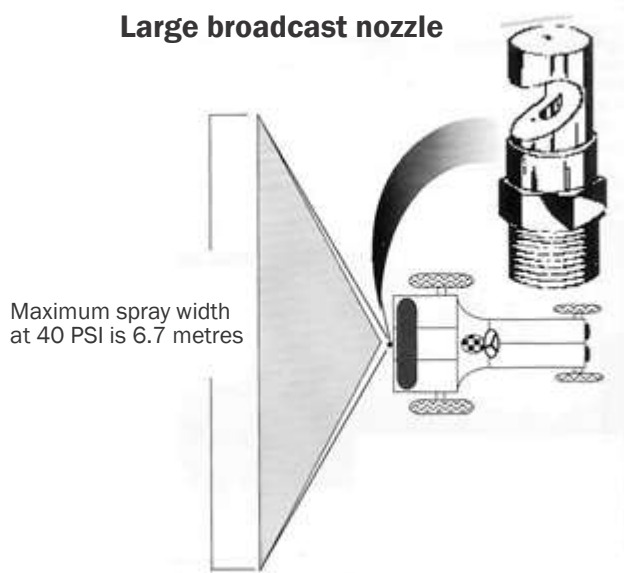
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### Application table

Litres applied per hectare at these speeds									
	Orifice	PSI	Lts/min	Width	3 km	5 km	8 km	12 km	16 km
Large	4 mm	30	11.7	6.4 m	350	230	134	91	69
		40	13.6	6.7 m	387	255	153	102	77
Small	2 mm	10	1.9	4.2 m	83	56	33	22.7	17
		20	2.6	5.1 m	98	65	39	26.5	20

### Large broadcast nozzle



Attach the nozzle at the rear of the tractor with the orifice and cutout facing rearwards. Mount the nozzle so that the threaded part is pointing at the ground, about 900 mm high when it is in the operating position

### What are the advantages of broadcast nozzles

- Spray is directed downwards to minimise drift
- An inexpensive spray 'boom' with a good spray width
- With a 2mm or 4 mm orifice they will not block
- Easy to fit onto a tractor or quad/bike/utility vehicle or trailer
- No extensions to catch on gateways, trees, undulating ground or fences
- They won't dig in to rough ground or catch on drinking troughs
- They can spray right through a fence line especially if it is being used to control weeds on a neighbouring property!
- Both nozzles can be used with Nitrosol plus herbicides if required
- The large nozzle on the back of a tractor will apply PhloLime effectively

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### did you know

Nitrosol has a **specific gravity** of about 1.24 so one litre weighs 1.24 kgs.

Because Nitrosol is a **colloidal suspension** containing organic material, it will not leach or wash away even under heavy rain or irrigation.

Nitrosol **feeds via foliage and roots** meaning that it can be applied directly to plants and the surrounding soil with excellent results.

The natural **growth promotants** in Nitrosol help plants to use the available nitrogen more efficiently with less waste.

Nitrosol acts as an **effective sticker and spreader** and may help to improve the effectiveness of plant protection materials when they are applied together.

Nitrosol is widely accepted as an important part of integrated fertiliser programmes **to improve soil sustainability**.

**Nitrosol is exported** from New Zealand to Europe, Asia, North America, Australia and South Pacific Islands.