

How to use the Sprayer Nozzling Charts

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Sprayer nozzling charts for spray application to pergola canopies are available for:

- 7 nozzle/side sprayers
- 8 nozzle/side sprayers
- 10 nozzle/side sprayers

A T-bar canopy sprayer nozzling chart is also provided.

All charts are divided into four sections based on different application volumes (500, 1000, 1500 and 2000 l/ha)

7, 8 and 10 nozzle /side charts are further divided for different canopy configurations (3, 4, 5m row spacings). Read across the chart for increased row spacings.

The T-bar canopy chart is sub-divided for different sprayer configurations (7, 8, 10 nozzle/side). Read across the chart for nozzle recommendations for different sprayer configurations.

How to read the charts

- Select the correct chart for the required canopy type, sprayer set-up and application volume.
- Select the portion of the chart which relates to row spacing, sprayer set-up and required application volume. (Refer to the grey heading box for each chart section).
- Each chart provides target spray output required (litres/minute) and nozzling details.
 - Nozzle pressure
 - Nozzle type
 - Predicted output/nozzle
 - Percentage output/nozzle, and recommended nozzle angle.
- Actual outputs should be tested against predicted outputs to verify correct sprayer calibration.

7 Nozzle Sprayer - 500 l/ha

ZESPRI 2011 sprayer nozzling guides:

For a canopy filled with SEVEN nozzle positions per side (to apply of 14nozzle to PERGOLA canopies at 50, 100 or 200 row spacings)

Note: The nozzling and pressure options shown in these charts are intended to provide an indication of a likely suitable sprayer configuration to obtain the predicted spray total output for a given canopy row spacing. There are other nozzle selections and configurations that could also be suitable. Different sprayer set-ups to the exact number of nozzles on the sprayer tips may require different nozzle selections. The nozzle outputs shown are theoretical, actual nozzle outputs can vary and should be measured during calibration.

Nozzling recommendations developed for target and ATR by B&B May (SprayTec Ltd) and David Macpherson (Zespri Ltd) September 2011

Pergola 3 m row - 7 nozzle sprayer 500 l/ha 5 km/hr				Pergola 4 m row - 7 nozzle sprayer 500 l/ha 5 km/hr				Pergola 5 m row - 7 nozzle sprayer 500 l/ha 5 km/hr						
Target Volume	500	l/ha	15.0 v/100m row	Target Volume	500	l/ha	20.0 v/100m row	Target Volume	500	l/ha	30.0 v/100m row			
Target speed	5.0	km/hr		Target speed	5.0	km/hr		Target speed	5.0	km/hr				
Row spacing	3.0	metres		Row spacing	4.0	metres		Row spacing	5.0	metres				
Output required	12.5	lit/min total		Output required	16.7	lit/min total		Output required	20.8	lit/min total				
NOZZLING DETAILS				NOZZLING DETAILS				NOZZLING DETAILS						
Nozzle pressure	1300 kPa			Nozzle pressure	1250 kPa			Nozzle pressure	1250 kPa					
Nozzle type	Nozzle	Predicted output	%	Nozzle angle	Nozzle type	Nozzle	Predicted output	%	Nozzle angle	Nozzle type	Nozzle	Predicted output	%	Nozzle angle
Albuz ATR	1 yellow	1.2	19%	Wide	Albuz ATR	1 yellow	1.3	18%	Wide	Albuz ATR	1 yellow	1.2	18%	Wide
Albuz ATR	2 orange	1.6	25%	Wide	Albuz ATR	2 orange	1.7	21%	Wide	Albuz ATR	2 orange	1.8	21%	Wide
Albuz ATR	3 red	2.3	38%	Wide	Albuz ATR	3 red	2.4	30%	Wide	Albuz ATR	3 red	2.2	30%	Wide
Albuz ATR	4 yellow	1.2	19%	Wide	Massott Art 58	4 M1.5-NCH	2.8	34%	Wide	Massott Art 58	4 M1.5-NCH	2.6	34%	Wide
5	Off				5	Off				5	Off			
6	Off				6	Off				6	Off			
7	Off				7	Off				7	Off			
Output from one side (lit/min)	6.3			100%	Output from one side (lit/min)	8.3			100%	Output from one side (lit/min)	10.5			
Total predicted output (lit/min)	12.6				Total predicted output (lit/min)	16.5				Total predicted output (lit/min)	21.0			



Figure 1—one page chart

The following example is from the 7 nozzle spray guide chart and is for three metre spacing in the pergola and application volume of 500 l/ha.

Pergola 3 m row - 7 nozzle sprayer 500 l/ha 5 km/hr				
Target Volume	500	l/ha	15.0 l/100m row	
Target speed	5.0	km/hr		
Row spacing	3.0	metres		
Output required	12.5	l/min total		
NOZZLING DETAILS				
Nozzle pressure	1300	kPa	189 PSI	
Nozzle type	Nozzle	Predicted output	%	Nozzle angle
Albuz ATR	1 yellow	1.2	19%	Wide
Albuz ATR	2 orange	1.6	25%	Wide
Albuz ATR	3 red	2.3	36%	Wide
Albuz ATR	4 yellow	1.2	19%	Wide
	5 off			
	6 off			
	7 off			
Output from one side (l/min)		6.3	100%	
Total predicted output (l/min)		12.6		

Figure 2—example of a single table.

Notes

This guide assumes a tractor speed of 4–6 km/hr.

Confirm your speed and make necessary adjustments to the spray volume. If you are travelling faster than 4–6 km/hr, increase the pressure. If you travel slower than 4–6 km/hr, reduce the pressure.

Use water-sensitive paper to test all sprayer set-ups.

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