

# BCPC Nozzle Card - For 110° Flat Fan Nozzles

Use the following tables and notes to help you choose the best nozzle for your application.

- Follow the pesticide label recommendations for spray quality wherever possible;
- Check reduced drift nozzles are suitable for the pesticide product and target;
- Renew all nozzles at least annually or when damaged;
- Set 110° nozzles at 35 to 50cm above the target or the crop;
- Nozzle fans are usually offset by at least 5° on the spray boom;
- Use multi-head nozzle bodies to simplify changing nozzles size and type.

## Spray Quality and Nozzle Outputs

Typical of 110° conventional flat fan nozzles (not reduced drift fan nozzles).

Note: Check with your nozzle supplier for the actual spray quality for their nozzles.

Nozzle code		11001	110015	11002	11003	11004	11005	11006	11008
ISO colour		Orange	Green	Yellow	Blue	Red	Brown	Grey	White
Pressure - Bar	1.5	0.29	0.42	0.56	0.85	1.13	1.41	1.70	2.26
	2.0	0.33	0.49	0.65	0.98	1.31	1.63	1.96	2.61
	2.5	0.37	0.55	0.73	1.10	1.46	1.82	2.19	2.92
	3.0	0.40	0.60	0.80	1.20	1.60	2.00	2.40	3.20
	3.5	0.43	0.65	0.86	1.30	1.73	2.16	2.59	3.45
	4.0	0.46	0.69	0.92	1.39	1.85	2.31	2.77	3.69
Nozzle output = litres/minute									
Spray Quality		Fine	Fine/Medium	Medium	Medium/Coarse	Coarse			

## Spray Volume, Speed, Nozzle Output & Calibration Equations

Spray volume litres/ha	Speed		
	5 km/h	8 km/h	10 km/h
80	0.33	0.53	0.66
100	0.42	0.67	0.83
150	0.62	1.00	1.25
200	0.83	1.33	1.67
250	1.04	1.66	2.09
300	1.25	2.00	2.50
400	1.67	2.67	3.33
500	2.08	3.33	4.17
Nozzle output - litres/minute			

**Speed km/h = 360 ÷ seconds per 100 metres**

**Volume = Output x 600 ÷ Speed ÷ Nozzle Space**  
litres/ha      litres/min      km/h      metres

**Calculating nozzle outputs and pressures:**  
 P1 = First pressure      P2 = Second pressure  
 Q1 = First output      Q2 = Second output

To calculate new pressure:  
 $P2 = (Q2 \div Q1)^2 \times P1$

To calculate new output:  
 $Q2 = \sqrt{(P2 \div P1) \times Q1}$



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## Typical Uses in Cereals

Adapted from 'Guide to Selecting Nozzles' and reproduced by permission of the Home Grown Cereals Authority (HGCA). Always check with the pesticide suppliers before using reduced drift nozzles.

Nozzle types	Conventional Flat Fan		Pre-Orifice Reduced Drift		Air-Induction Reduced Drift
	FINE	MEDIUM	MEDIUM	COARSE	Air-inclusions
Spray quality	FINE	MEDIUM	MEDIUM	COARSE	Air-inclusions
Likely drift potential	High	Medium	Low	Very low	Very low
Soil herbicides		OK		OK	Best
Grass weed herbicides	OK	Best			
Other herbicides		Best	OK	OK	OK
Fungicides - foliar	OK	Best	OK		OK
Fungicides - late	Best	OK			OK
Insecticides - autumn	OK	Best			OK
Insecticides - ear	Best	OK			OK

## Nozzle Suppliers, Codes and Materials

'11003' / Blue size given as a common example.

Supplier	Flat Fan	Pre-Orifice	Air-Induction	Materials*
Lurmark	03 F110 UB FanTip	LD 03 F110 UB LO-Drift	DB 03 F120 DriftBETA	P, S
Spraying Systems	XR 11003 XR TeeJet	DG 11003 Drift Guard	AI 11003 Air Induction	S/P, P, C/P
Hardi	S F-03-110 ISO F110 Flat Fan	S LD-03-110 ISO LD Low Drift	S INJET 03 INJET, B-JET	P, C/P
Tecnomat Berthoud	RFX - AFX 110-03 Flat Fan	RLX - ALX 110-03 Low Drift	RRX - ARX 110-03 Air-Injection	P - C/P
Lechler	LU 120-03 Multirange	AD 120-03 Anti Drift	ID 120-03 Air-Injektor	P, S, C/P
Albuz	API Blue - 11003 Fan	ADI Blue - 11003 Drift Reduction	AVI 11003 AVI Anti Drift	C/P
Sprays International	110-SF-03 Standard	110-LD-03 Enviroguard	03 Pneu'Jet	P
Billericay	110-03, TC 110-03 Flat Fan, TipCap	110-03 Multi Drop	03 Air Bubble Jet	P
Agrotop			TDO3 TurboDrop	C/P

\* Nozzle tip materials: P - Plastic, S - Stainless steel, C - Ceramic, C/P - Ceramic tip in plastic body, S/P - Stainless steel tip in plastic body.



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This card is supplied with the *Boom & Fruit Sprayers Handbook* and the *Hand-Held & Amenity Sprayers Handbook*.  
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