


SPECIFICATIONS


GA110-015AZ	Pressure Bar	Flow L/min	Litres/hectare @ Km/h						LERAP RATING	
			6	8	10	12	14	16		18
	1	0.346	69	52	42	35	30	26	23	★★★★
	1.5	0.424	85	64	51	42	36	32	28	
	2	0.490	98	73	59	49	42	37	33	
	3	0.600	120	90	72	60	51	45	40	★★★
	4	0.693	139	104	83	69	59	52	46	
	5	0.775	155	116	93	77	66	58	52	
6	0.849	170	127	102	85	73	64	57	★★★	


Application rates shown are based on tests at 3 bar and 50 cm nozzle spacing.


Order Guardian Airä nozzles using the part numbers shown or add '_bag50' to the part no. to order in bags of 50 with a rate card.


★★★★ 3-star LERAP - At least 75% less drift*
★★★ 2-star LERAP - 50 to 75% less drift*


* Compared with a reference spray bar fitted with F110/1.2/3.0 nozzles at 0.5 m above the target, spraying water and 0.1% non-ionic surfactants.


GA110-02AZ	Pressure Bar	Flow L/min	Litres/hectare @ Km/h						LERAP RATING	
			6	8	10	12	14	16		18
	1	0.462	92	69	55	46	40	35	31	★★★★
	1.5	0.566	113	85	68	57	48	42	38	
	2	0.653	131	98	78	65	56	49	44	
	3	0.800	160	120	96	80	69	60	53	★★★
	4	0.924	185	139	111	92	79	69	62	
	5	1.033	207	155	124	103	89	77	69	
6	1.131	226	170	136	113	97	85	75	★★★	

GA110-025AZ	Pressure Bar	Flow L/min	Litres/hectare @ Km/h						LERAP RATING	
			6	8	10	12	14	16		18
	1	0.577	115	87	69	58	49	43	38	★★★★
	1.5	0.707	141	106	85	71	61	53	47	
	2	0.816	163	122	98	82	70	61	54	
	3	1.000	200	150	120	100	86	75	67	★★★
	4	1.155	231	173	139	115	99	87	77	
	5	1.291	258	194	155	129	111	97	86	
6	1.414	283	212	170	141	121	106	94	★★★	

GA110-03AZ	Pressure Bar	Flow L/min	Litres/hectare @ Km/h						LERAP RATING	
			6	8	10	12	14	16		18
	1	0.693	139	104	83	69	59	52	46	★★★★
	1.5	0.849	170	127	102	85	73	64	57	
	2	0.980	196	147	118	98	84	73	65	
	3	1.200	240	180	144	120	103	90	80	★★★
	4	1.386	277	208	166	139	119	104	92	
	5	1.549	310	232	186	155	133	116	103	
6	1.697	339	255	204	170	145	127	113	★★★	

GA110-035AZ	Pressure Bar	Flow L/min	Litres/hectare @ Km/h						LERAP RATING	
			6	8	10	12	14	16		18
	1	0.808	162	121	97	81	69	61	54	★★★★
	1.5	0.990	198	148	119	99	85	74	66	
	2	1.143	229	171	137	114	98	86	76	
	3	1.400	280	210	168	140	120	105	93	★★★
	4	1.617	323	242	194	162	139	121	108	
	5	1.807	361	271	217	181	155	136	120	
6	1.980	396	297	238	198	170	148	132	★★★	

GA110-04AZ	Pressure Bar	Flow L/min	Litres/hectare @ Km/h						LERAP RATING	
			6	8	10	12	14	16		18
	1	0.924	185	139	111	92	79	69	62	★★★★
	1.5	1.131	226	170	136	113	97	85	75	
	2	1.306	261	196	157	131	112	98	87	
	3	1.600	320	240	192	160	137	120	107	★★★
	4	1.848	370	277	222	185	158	139	123	
	5	2.066	413	310	248	207	177	155	138	
6	2.263	453	339	272	226	194	170	151	★★★	

GA110-05AZ	Pressure Bar	Flow L/min	Litres/hectare @ Km/h						LERAP RATING	
			6	8	10	12	14	16		18
	1	1.155	231	173	139	115	99	87	77	★★★★
	1.5	1.414	283	212	170	141	121	106	94	
	2	1.633	327	245	196	163	140	122	109	
	3	2.000	400	300	240	200	171	150	133	★★★
	4	2.309	462	346	277	231	198	173	154	
	5	2.582	516	387	310	258	221	194	172	
6	2.828	566	424	339	283	242	212	189	★★★	



Approved for spraying field crops.
JKI Drift Classification:
50% up to 2.5 bar



Approved for spraying field crops.
JKI Drift Classification:
75% up to 1.5 bar
50% up to 2.5 bar



Approved for spraying field crops.
JKI Drift Classification:
75% up to 1.5 bar
50% up to 3.0 bar



Approved for spraying field crops.
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75% up to 1.5 bar
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Guardian AIR™ 025 is the same as the Amistar nozzle which is manufactured by Hypro for Syngenta.

Hypro EU Limited
Station Road, Longstanton, Cambridge, CB24 3DS, UK
Tel: +44 (0) 1954 260097 Fax +44 (0) 1954 260245
E-mail: sales@hypro-eu.com
www.hypro-eu.com



SPRAY PRODUCTS



Guardian AIR™ spray nozzles are scientifically designed finer Air-Inclusion nozzles proven to deliver improved performance in the field. They offer a balance of excellent target coverage with reduced spray drift that can be fine tuned by the user. Guardian AIR™ nozzles are suitable for a wide range of crop spraying applications and are available in seven sizes.

Each nozzle size has a rearward spray incline to provide more uniform coverage. Higher flow nozzles used at faster speeds have a greater spray incline.

FEATURES & BENEFITS

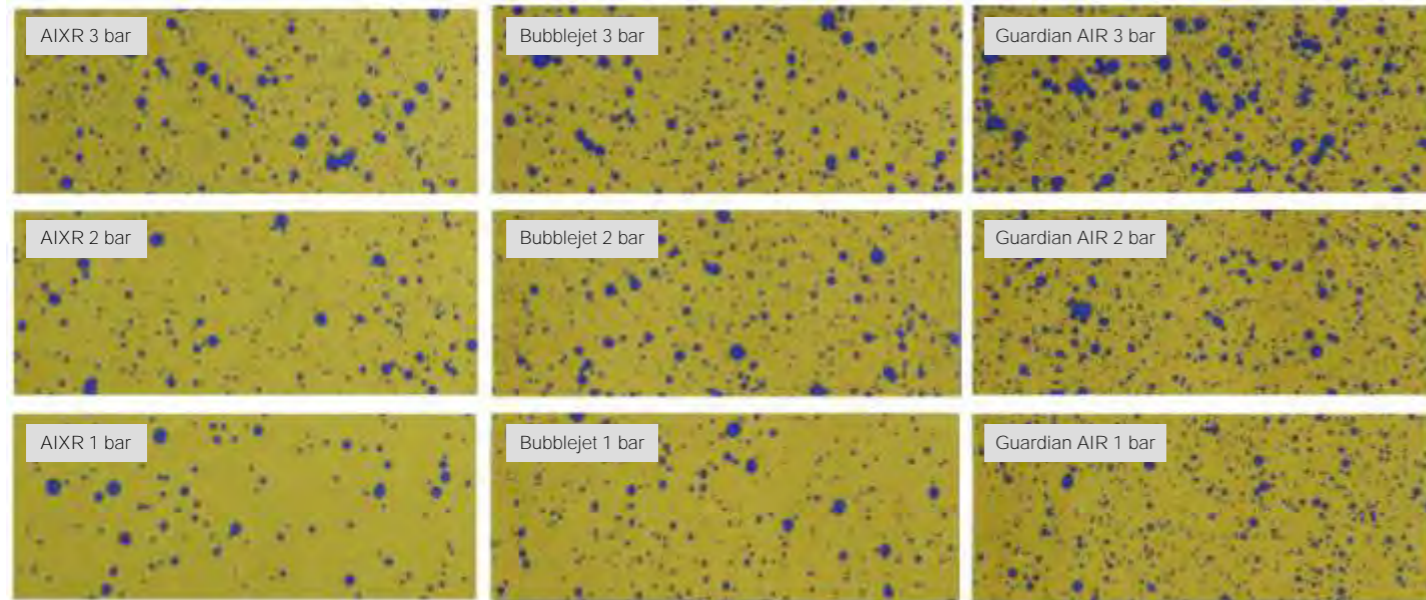
- Better coverage with more drops per litre compared to other Air-Inclusion spray nozzles
- Up to 75% drift reduction ratings at lower pressures to enable more spraying days
- Good spray distribution at lower spraying pressures
- Spray incline calculated for each nozzle to allow uniform coverage on the front and back of the plant at a wide range of speeds
- Unique droplet structure produces droplets that stick to target
- Excellent results at lower water volumes for faster work rates. 100 l/ha often outperforms 200 l/ha flat fan sprays in field trials
- Proven across a wide range of combinable crop spraying applications. Recommended by Syngenta UK for applying fungicides, insecticides and some herbicides to combinable crops*



Sizes 025 to 05 are approved and classified for drift reduction
At 1 - 1.5 bar

* always check the product label for recommendations on spray quality

ALL AIR-INCLUSION NOZZLES ARE NOT THE SAME!



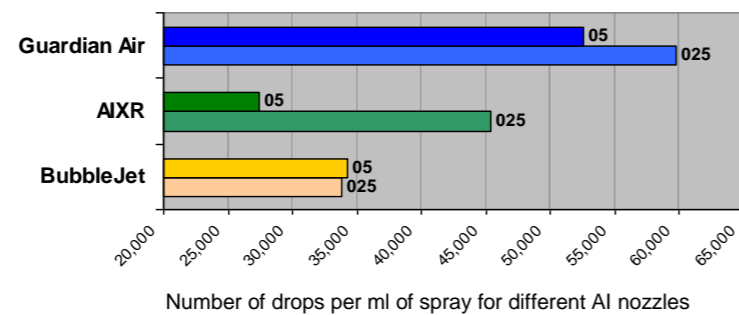
Spray pattern of three popular Air-Inclusion nozzles sprayed onto water sensitive paper at different pressures

Finer droplets

Guardian AIR™ nozzles produce droplets that are much smaller than other Air-Inclusion nozzles. This means more drops and **better spray coverage** but still gives good reduction of drift.

More control for the Sprayer Operator

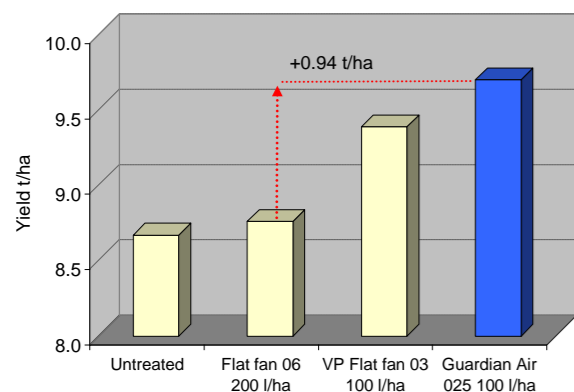
The balance between drift reduction and spray coverage can be managed by adjusting spraying pressure (for example, slowing down on the headland when using a rate controller will coarsen the spray and reduce drift).



HGCA funded project RD-2006-3273 has concluded that "Measurements with commercially available air-induction nozzles have confirmed that those with an equivalent specification in terms of flow rate and spray angle at a given pressure give large differences in the droplet size distribution generated". This work will ultimately result in a new classification system for AI nozzles.

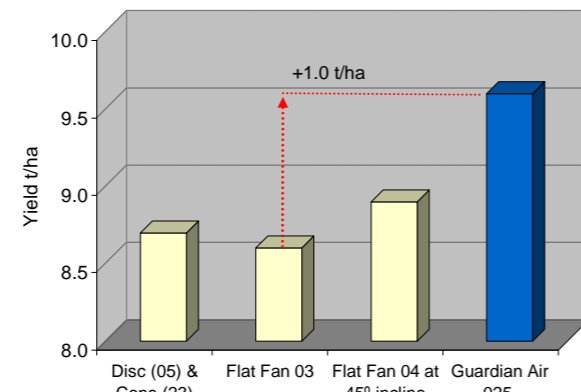
PERFORMANCE OF NOZZLES IN INDEPENDENT FIELD TRIALS

Single Flag Leaf Spray on winter wheat



Single Flag Leaf Spray of Amistar+Menara+Bravo at GS39 (flag leaf). Trial conducted by Syngenta Crop Protection UK in 2004.

Single Ear Spray on winter wheat








Single Ear Spray of Amistar+Follicur at 150 l/ha. Untreated yield 6.4 t/ha. LSD 0.425 t/ha. Trial conducted by Morley Research Centre (TAG) in 2003 and reported in Aspects of Applied Biology 71 (2004) by E.S. Powell et al.

NOZZLE SELECTION GUIDE – CEREALS AND OILSEED RAPE

Guardian AIR™ nozzles are based on the Amistar 025 nozzle, designed by Hypro for Syngenta in 2003. Since then, this nozzle technology has been rigorously tested and proven on combinable crops in both independent field trials and farmer comparisons.

Guardian AIR™ nozzles are recommended for a much broader range of applications than existing Air-Inclusion nozzles because they produce better spray coverage at normal spraying pressures.

NOZZLE	Guardian AIR 	Drift Beta 	Flat fan 	Flat fan 	Flat fan 
Spray quality*	'Finer' Air-Inclusion	'Coarser' Air-Inclusion	Fine	Medium	Coarse
Likely drift potential	Low	Low	High	Mod	Low
Soil-acting herbicides					
Pre and early post emergence	▲	▲		▲	▲
Foliage-acting herbicides					
Small grasses (<3 leaves)			▲▲	▲	
Grasses (>3 leaves)	▲		▲	▲▲	
Broad leaved weeds (up to 2 cm across)			▲▲	▲▲	
Broad leaved weeds (2 - 5 cm across)	▲▲		▲	▲▲	
Broad leaved weeds (>5 cm across)	▲▲▲			▲▲	
Large weeds: non-selective (e.g. glyphosate)	▲▲▲	▲		▲▲	▲
Cereal PGRs and eyespot fungicides					
Pre and post GS32	▲▲▲			▲▲	
Cereal fungicides					
T ₀ - up to GS23	▲▲		▲	▲▲	
T ₁ and T ₂ - GS 24-49	▲▲▲	▲	▲	▲▲	
T ₃ - after GS50 (ear spray)	▲▲▲			▲▲	
Cereal insecticides					
Autumn	▲		▲	▲▲	
Ear spray	▲▲		▲▲	▲	
Oilseed rape fungicides					
Vegetative phase	▲		▲	▲▲	
From green bud	▲▲▲		▲	▲▲	
Oilseed rape insecticides					
Vegetative phase			▲	▲▲	
From green bud	▲▲▲		▲▲	▲	

Always refer to the product label or latest application advice from the agrochemical manufacturer before selecting a spray quality.

▲ Acceptable
▲▲ Preferred
▲▲▲ Best efficacy

Spray quality varies with pressure. For conventional flat fan nozzles and many Air-Inclusion nozzles the spray becomes coarser as nozzle size increases. For Guardian AIR™ nozzles however, spray quality is consistent across sizes (when used at the same pressure).