



TEST REPORT

of the
Julius Kühn-Institut
Federal Research Institute
for Cultivated Plants, Braunschweig



Double - Flatfan nozzle Hypro Guardian Air Twin 035
(Plastic, purple) identical with nozzle John Deere
PSGAT10035A

Approved for spraying field crops

Applicant and Manufacturer
Hypro EU Limited
Station Road, Longstanton
UK – Cambridge CB24 5 DS

Approved on
14 January 2015

Assessment

The double-flatfan nozzle Hypro Guardian Air Twin 035 (Plastic, purple) was tested with an integrated filter (0.35 mm mesh width). The nozzle is suitable for spraying field crops, provided that the following technical requirements are fulfilled:

1. Installation in a spray boom with a sufficient and a steady amount of liquid flow,
2. 500 mm nozzle spacing,
3. 50 cm between nozzles and spray target (consistency of evenness of cross distribution proved satisfactory at a distance range from 40 cm to 60 cm),
4. Spray pressure – measured in front of the nozzle – between 1.5 and 6.0 bar; liquid volume flow per nozzle as stated in table below.

Suitable precautions should be taken to assure that the nozzles do not get blocked up or drip when in use. The nozzle tip is fitted out with a moulded bajonett cap (System "TeeJet"). The colour coding of the nozzle comply with standard ISO 10625. In the field edge region the last nozzle of the spray line must be closed to prevent an overspraying.

Pressure (bar)	Liquid flow volume without accessories (l/min)	Max. deviation of single nozzle flow from the dosage tables	Evenness of cross distribution at (cm) 40 / 50 / 60 (Vk %)	Droplet spectrum (BCPC-Standard)
1.5	1.01	-2.09 %	2.9 / 5.5 / 7.7	
2.0	1.17	-	- / 4.1 / -	
3.0	1.42	4.02 %	4.4 / 2.6 / 2.7	
4.0	1.65	-	- / 2.4 / -	
5.0	1.85	-	- / 4.2 / -	
6.0	2.02	-3.21 %	- / 5.3 / -	

Field test

The nozzles were used in the year 2014 on a total of 900 hectares, a sufficient effect of the plant protective measures was confirmed.

Basics for testing

The tests were carried out on basis of the Regulations for Testing Plant Protection Equipment (JKI-Guideline 2-1.1:2013) and of ISO 5682-1:1999. The requirements ISO 16119-2:2013 and of JKI-Guideline 1-2.1:2013 were fulfilled.

Field testing:

Landwirtschaftliches Technologiezentrum Augustenberg
Außenstelle Stuttgart
Withauweg 5
70439 Stuttgart

Technical testing:

Institut für Anwendungstechnik im
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