



TEST REPORT

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



Pic. 1: Hypro GAT 110-06



Pic. 2: John Deere PSGAT1006A

**Double - Flatfan nozzle Hypro GAT 110-06 (Plastic, grey)
identical in construction with John Deere PSGAT1006A**

Approved for spraying field crops

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

Approved on
10 January 2012
Extension of approval
on 19 October 2015

Assessment

The double-flatfan nozzle Hypro GAT 110-06 (Plastic, grey) is identical in construction with John Deere PSGAT1006A and was tested with an integrated filter. 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 2.0 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) |
|----------------|--|---|--|----------------------------------|
| 2.0 | 1.92 | - 2.22 % | 5.1 / 7.7 / - | very coarse |
| 3.0 | 2.36 | - 2.44 % | 4.3 / 4.0 / 2.7 | coarse |
| 4.0 | 2.72 | - | - / 2.1 / - | coarse |
| 5.0 | 3.04 | - | - / 1.8 / - | coarse |
| 6.0 | 3.33 | - 4.71 % | - / 1.9 / - | medium |

Loss reducing properties

Included in the list "Loss reducing equipment" (15. April 2016)

| Drift reducing classification | Type of equipment and drift reducing parts | Regulations for use |
|-------------------------------|---|---|
| 50 % | Fieldsprayers with nozzle Hypro GAT 110-06 | First 20 m from field edge spraying with max. 4.0 bar, nozzle height above target 50 cm |
| 50 % | Fieldsprayers with nozzle John Deere PSGAT1006A | First 20 m from field edge spraying with max. 4.0 bar, nozzle height above target 50 cm |

Field test

The nozzles were used in the year 2010 on a total of 1344 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 of ISO 16119-2:2013 and of JKI-Guideline 1-2.1:2013 were fulfilled.

Field testing:

Landwirtschaftskammer Niedersachsen
- Pflanzenschutzdienst –
Wunstorfer Landstrasse 9
30453 Hannover

Technical testing:

Institut für Anwendungstechnik im
Pflanzenschutz des
Julius Kühn-Instituts,
Messeweg 11-12,
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