# TEST REPORT

of the

## Julius Kühn-Institute

Federal Research Institute
for Cultivated Plants, Braunschweig

Bild 1: Hypro VP 110-04


Bild 2: John Deere PSERQ1004

**Flatfan nozzle Hypro VP 110-04 (Plastic, red) identical in construction with John Deere PSERQ1004**

**Approved for spraying field crops**

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

**Approved on**
**11 January 2010**
**Extension of Approval**
**19 October 2016**

Institute for Application Technique in Plant Protection DOI: 10.5073/AT.2016.G1853en
Messeweg 11-12, 38104 Braunschweig

Assessment

The flatfan nozzle Hypro VP 110-04 (Plastic, red) is identical in construction with John Deere PSERQ1004 and was tested without accessories. The nozzle is suitable for spraying field crops, proved 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 eveness 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 5.0 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 dimensions of the nozzle tip comply with standard ISO 10626. 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 | Eveness of cross distribution at (cm) 40 / 50 / 60 (Vk %) | Droplet spectrum (BCPC-Standard) |
|---|---|---|---|---|
| 2.0 | 1.32 | - | - / 6.3 / - | medium |
| 3.0 | 1.62 | + 3.06 % | 4.1 / 2.8 / 4.1 | medium |
| 4.0 | 1.87 | - | - / 4.0 / - | medium |
| 5.0 | 2.09 | + 4.43 % | - / 3.6 / - | fine |

Field test

The nozzles were used in the year 2009 on a total of 972 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:
Landesamt für Verbraucherschutz, Landwirtschaft und Flurneuordnung
Ringstr. 1010
15236 Frankfurt / Oder

Technical testing:
Institut für Anwendungstechnik im Pflanzenschutz des
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