



# TEST REPORT

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



**Flatfan nozzle DR110-05**  
(stainless steel, plastic coated, brown)

**Approved for spraying field crops**

**Applicant and Manufacturer**  
Wilger Inc.  
Seahorse Drive 255  
TN 38351 Lexington  
USA

**Approved on**  
**4 March 2021**

## Assessment

The flatfan nozzle WILGER DR110-05 (stainless steel, plastic coated, brown) was tested without accessories. 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 nozzles have a bayonet cap. They fit on TeeJet nozzle bodies using an adapter. The colour coding of the nozzle comply with standard ISO 10625.

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) 50 / 60 / 70 (Vk %)	Droplet spectrum (ISO 25358)
2.0	1.60	4.77 %	4.6 / 4.4 / 4.4	extreme coarse
3.0	1.96	4.55 %	- / 4.2 / -	very coarse
4.0	2.26	3.65 %	5.1 / 4.1 / 3.4	very coarse
5.0	2.53	-	- / 3.9 / -	very coarse
6.0	2.77	3.83 %	- / 3.9 / -	very coarse

## Loss reducing properties

Included in the list „Loss reducing equipment“ (15 July 2021)

Drift reducing classification	Type of equipment and drift reducing parts	Regulations for use
50 %	Field sprayer with nozzle WILGER DR110-05	First 20 m from field edge spraying with max. 6.0 bar, nozzle height above target 50 cm.

## Field test

The nozzles were subjected to a wear test in 2020 instead of being used in practice. The nozzles proved to be sufficiently wear-resistant. Based on the results from the distribution and wear measurements, it can be assumed that the plant protection measures have a sufficient effect.

## 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  
Nordrhein-Westfalen  
Pflanzenschutzdienst, Ref. 62  
Nevinghoff 40  
48147 Münster

### Technical testing:

Institute for Application Technique in  
Plant Protection  
Messeweg 11-12,  
38104 Braunschweig

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