International Standard 6686

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Equipment for crop protection — Anti-drip devices — Determination of reduction of nozzle flow rate

Matériel de traitement agropharmaceutique — Dispositifs anti-gouttes — Détermination de la diminution du débit des buses

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6686 was developed by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, and was circulated to the member bodies in December 1979.

It has been approved by the member bodies of the following countries :

Australia	Egypt, Arab Rep. of	Romania
Austria	Finland	South Africa, Rep. of
Belgium	Germany, F.R.	Spain
Bulgaria	India	Sweden
Canada	Italy	Switzerland
China	Korea, Dem. P. Rep. of	Turkey
Czechoslovakia	Mexico	USA
Denmark	New Zealand	USSR

The member bodies of the following countries expressed disapproval of the document on technical grounds :

France
United Kingdom

Printed in Switzerland

Equipment for crop protection — Anti-drip devices — Determination of reduction of nozzle flow rate

1 Scope and field of application

This International Standard specifies a method of test to determine the effect on the flow rate of nozzles by the fitting of anti-drip devices.

This International Standard applies to anti-drip devices of sprayer nozzles of agricultural sprayers which can be carried or drawn or are self-propelling, used for the protection and fertilization of crops.

This International Standard does not apply to anti-drip devices of nozzles of hand-held or hand-operated sprayers.

2 Reference

ISO 3534, *Statistics — Vocabulary and symbols.*

3 Test liquid

3.1 Clean water, free from solids in suspension.

4 Measuring equipment

4.1 Pressure gauge, allowing the pressure to be measured with a precision of 1 % within the range 0,05 to 0,5 MPa.

4.2 Collection vessel for the nozzle.

4.3 Measuring cylinder or **balance** to measure the quantity of liquid collected.

4.4 Stop watch.

5 General test conditions

5.1 Temperature

The temperature of the water and that of the air of the room shall be between 10 and 25 °C.

5.2 Pressures

Each pressure of the liquid shall remain constant with a maximum deviation of ± 2,5 % about the mean pressure.

6 Determination

6.1 Uniformity of the flow rates obtained with the same nozzle and different anti-drip devices

6.1.1 Choice of the nozzle

The complete designation of the nozzle used shall appear in the test report.

6.1.2 Sampling of anti-drip devices

Select at random 20 anti-drip devices of the same type. The sampling conditions shall be indicated in the test report, in particular the size of the stock, the place of sampling, etc.

6.1.3 Measurements

Measure, at the reference pressure of 0,3 MPa, the flow rate of the nozzle without the anti-drip device and the flow rates obtained when the various anti-drip devices of the sample are attached to the nozzle in succession.

The volume discharged shall be measured with an error of less than 1 %. The measuring time shall be at least 60 s and will be measured with an error of less than 1 s.

6.1.4 Results

The flow rates should be expressed in litres per minute. Indicate the flow rate at 0,3 MPa of the nozzle without an anti-drip device, the arithmetic mean of the flow rates obtained with the 20 anti-drip devices and the flow rate of each anti-drip device expressed as a percentage of the mean. The coefficient of variation of the flow rates shall be reported.

6.2 Variation in the flow rate as a function of the pressure for the nozzle fitted with an anti-drip device

6.2.1 Anti-drip device choice

Use the anti-drip device having the flow rate closest to the mean of the flow rates obtained with the various anti-drip devices of the sample.

6.2.2 Pressures

Measure the flow rate at pressures : 0,05 — 0,1 — 0,2 — 0,3 — 0,4 — 0,5 MPa.

6.2.3 Measurements

Measure, at each pressure, the flow rate of the nozzle fitted with the anti-drip device and that of the nozzle without an anti-drip device.

6.2.4 Results

The flow rates shall be expressed in litres per minute.

Indicate for each pressure the flow rates obtained with and without an anti-drip device.

Indicate the results in the form of graphs (the flow rate shall be indicated on the ordinate and the pressure on the abscissa) or a table, in the test report.

7 Test report

See the example in the annex.