ISO 16122-2:2024-12 (E)

Agricultural and forestry machinery - Inspection of sprayers in use - Part 2: Horizontal boom sprayers

Contents

Page

Foreword ..... **v**

Introduction ..... **vii**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Requirements and method of verification **1**

4.1 General 1
4.2 Leaks and dripping 2
4.2.1 Static leaks 2
4.2.2 Dynamic leaks 2
4.2.3 Spraying and dripping on parts 2
4.3 Pump(s) 2
4.3.1 Capacity 2
4.3.2 Pulsations 3
4.3.3 Air chamber 3
4.4 Spray mix agitation 3
4.4.1 Hydraulic 3
4.4.2 Mechanical 3
4.5 Spray tank(s) 3
4.5.1 Lid 3
4.5.2 Tank filling strainer 4
4.5.3 Pressure compensation 4
4.5.4 Tank content indicator(s) 4
4.5.5 Tank emptying 4
4.5.6 Tank filling 4
4.5.7 Induction hopper 4
4.5.8 Cleaning device for plant protection product containers 4
4.5.9 Cleaning equipment 5
4.6 Measuring systems, controls and regulation systems 5
4.6.1 General 5
4.6.2 Pressure indicator for spray liquid 5
4.6.3 Other measuring devices 6
4.6.4 Pressure adjusting devices 6
4.6.5 Pressure drop 6
4.6.6 Spray boom section pressure equalizer 6
4.7 Lines (pipes and hoses) 6
4.7.1 Lines 6
4.8 Filters 7
4.8.1 Filter presence 7
4.8.2 Isolating device 7
4.8.3 Filter insert changeability 7
4.9 Spray boom 7
4.9.1 Stability/Alignment 7
4.9.2 Damping, slope compensation and stabilization 7
4.9.3 Automatic resetting 7
4.9.4 Nozzle spacing/ Orientation 7
4.9.5 Boom deformation 8
4.9.6 Prevention of nozzle damage 8
4.9.7 Height adjustment 8

4.10 Nozzles ... 9
4.10.1 Similarity ... 9
4.10.2 Dripping ... 9
4.10.3 Transverse distribution ... 9
4.11 Blower (if present) ... 10
4.11.1 Condition ... 10
4.11.2 Adjustability ... 10
4.12 Spray guns and lances (if present) ... 10
4.12.1 Trigger ... 10
4.12.2 Adjustment of flow rate and angle ... 10
5 Test methods ... 10
5.1 Test facilities and equipment ... 10
5.1.1 General ... 10
5.1.2 Test facilities ... 10
5.2 Pumps ... 11
5.2.1 Pump capacity test ... 11
5.2.2 Pump pulsations ... 11
5.3 Sprayer´s pressure indicators ... 11
5.3.1 Specification of pressure indicators used for verification ... 11
5.3.2 Verification method of the sprayer pressure indicator ... 12
5.4 Flow meters for controlling the volume/area rate ... 12
5.4.1 General ... 12
5.4.2 Operating procedure No. 1: Verification by nozzle flow rate measurement ... 12
5.4.3 Operating Procedure No. 2: Verification by installing a calibrated flow meter in the circuit of the sprayer ... 13
5.5 System for controlling forward speed ... 14
5.6 Uniformity of the transverse volume distribution with a horizontal patternator ... 14
5.6.1 Specification of the horizontal patternators used for verification ... 14
5.6.2 Verification method of the uniformity of the transverse distribution ... 15
5.6.3 Calculation of coefficient of variation (CV) ... 15
5.7 Flow rate of the spray nozzles ... 15
5.7.1 General ... 15
5.7.2 Measurement with nozzles fitted on the boom ... 15
5.7.3 Measurement with nozzles removed from the boom ... 16
5.7.4 Measurement on a spray gun/lance ... 16
5.8 Pressure drop ... 16
5.9 Pressure variation when the sections are closed ... 16
5.10 Pressure variation when the spray is switched off ... 16
5.11 Pressure distribution ... 16
Bibliography ... 18