

SERVICES

# Agroforestry Innovation Lab

Laboratory for the development of new technologies  
in agriculture and forestry

Free University of Bolzano-Bozen  
Faculty of Agricultural, Environmental  
and Food Sciences

Head of Laboratory:  
Prof. Fabrizio Mazzetto

TESTS ON SPRAYERS, ATOMISERS AND NEBULIZERS		All prices quoted are exclusive of VAT.
<b>Sprayer's features</b>	Preparation of a document on the descriptive and constructive characteristics of the machine, covering all its main functional parts.	€ 320
<b>Tank roughness</b>	Measurement of the internal roughness of the tank surface, according to ISO 16119, ISO 21920 (5 repetitions).	€ 80
<b>Tank washing</b>	Test of the efficiency of the tank cleaning system, according to ISO 16119, ISO 22368 (3 repetitions).	€ 463
<b>Pump flowrate</b>	Characterization of pump functions, with measurement of flow rates at different pressures, according to ISO 16119.	€ 106
<b>Circuit residues</b>	Measurement of residual substances at various points in the hydraulic circuit, in accordance with ISO 16119.	€ 147
<b>Mixer efficiency</b>	Test of efficiency of internal tank agitators, with sampling at different tank heights, according to ISO 16119, ISO 5682 (3 repetitions).	€ 147
<b>Manometer accuracy</b>	Test of the measuring efficiency of the pressure gauge in service on the machine (5 repetitions).	€ 106
<b>Pressure losses</b>	Measurement of pressure loss in the hydraulic circuit, in accordance with ISO 16119.	€ 106
<b>Fan flowrate</b>	Measurement of the overall flow rate of the machine's ventilation system, with test in an airtight chamber, according to ISO 16119, ISO 9898.	€ 327
<b>Airflow symmetry</b>	Analysis of air flows (speed and direction) at different heights, on both sides of the ventilation system.	€ 668
<b>Nozzles' flowrate</b>	Measurement of nozzle flow rates on the machine, at different operating pressures, in accordance with ISO 16119 (3 repetitions).	€ 106
<b>Spreading diagrams</b>	Measurement of distribution diagrams, in height or along the width of the boom, with verification of the homogeneity of the work carried out, in accordance with ISO 16119 (3 repetitions).	€ 368
<b>Spreading bar height</b>	Checking the efficiency of the sprayer boom height adjustment system, in accordance with ISO 16119 (3 repetitions).	€ 147

## LAB DESK

NOI TECHPARK  
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<b>Spreading bar interactions</b>	Checking the efficiency of the adjustment system for sprayer boom interaction with possible obstacles, in accordance with ISO 16119 (3 repetitions).	€ 106
<b>Antidrip</b>	Checking the functionality of the anti-drip system, in accordance with ISO 16119 (3 repetitions).	€ 106
<b>Ergonomics</b>	Verification of the overall ergonomic functions in the handling of the various machine functions.	€ 164
<b>LaserShadow on machine</b>	Hydraulic-pneumatic characterization of the lateral distribution of the nozzles, with regard to size, speed and direction of the drops generated; measurements carried out with a Laser Shadowgraph shifted to the different heights of the distribution system; test with machine at standstill and distribution system in operation; measurements to be carried out on both sides of the machine; measurements with 3 different hydraulic control pressures.	€ 908
<b>LaserShadow on naked nozzles</b>	Hydraulic characterization of the individual nozzles mounted on the machine, with regard to size, speed and direction of the droplets generated; measurements carried out with Laser Shadowgraph on test bench, without interaction with air flows, at 3 different hydraulic control pressures.	€ 354
<b>Drop coverage</b>	Measurement of the degree of coverage of distribution flows on water-sensitive paper; tests carried out on both vertical and horizontal distributions; costs referred to a single feed rate and operating pressure (3 repetitions).	€ 358
<b>Horizontal primary drift</b>	Measurement of horizontal primary drift deposition phenomena up to a distance of 25 m from the dispensing point; tests with sampling on horizontal patternator in accordance with ISO 22866; concentration measurements by means of electrical or optical measurements.	€ 2.632
<b>Sprayer secondary drift</b>	Measurement of secondary drift dispersion phenomena in air up to a distance of 25 m from the point of delivery; tests with visualization through optical devices (planar lasers + video cameras); concentration measurements through electrical or optical measurements.	€ 2.956
<b>PLATFORM TESTING STABILITY ANALYSIS OF AGRICULTURAL VEHICLES</b>		All prices quoted are exclusive of VAT.
<b>Centre of Gravity</b>	Determination of the position of the center of gravity of a farm vehicle; measurements on planes with different inclinations.	€ 545
<b>RollOver point</b>	Determination of the angle of lateral tilt of an agricultural vehicle, under static conditions;	€ 545
<b>Spinning point</b>	Determination of the longitudinal rollover angle of a farm vehicle, under static conditions;	€ 587
<b>Critical contexts</b>	Determination of stability conditions under different critical conditions of direction and slope, associated with different platform heights (tests on 3 configurations).	€ 1.094
<b>Helical surfaces</b>	Determination of stability conditions on helical surfaces, i.e. with ground support points of propulsion organs at different heights (test on 3 configurations).	€ 1.094