SPISE Technical Working Group 7
Train application – State of the art and parameters to be inspected

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Survey

Inspection of sprayers for pesticide application in railway

- Content of survey
  - What type and how many sprayers are used
  - Area/distance sprayed
  - Using conditions (speed, pressure, etc.)
  - Facilities (pesticide dosage system, type of nozzles, etc)
  - Inspections: running/planned

Inspection will be obligatory in EU before end of 2016

- Art. 8.3.a (i): no exemption or other frequency possible for sprayers mounted on trains.

Total EU

- Total railway: 234.000 km railway in EU (source: wikipedia)
- Covered area: 164.000 ha (swath width 7 meter)
- When sprayed annually with Roundup (2,5 l/ha): 150 ton active ingredient applied in EU.

Results:

- Not well known equipment
- 8 countries participated
- Km of railway sprayed: 2000 – 57500 km
- Area: 450 – 40.000 ha
- Mostly special trains:

- Speed: 15, 25, 40, 50, 60 km/h
- Working pressure: 1,5 – 6 bar
- Volume applied: 50, 150, 200, 250-280,600 l/ha

Results:

- Mostly pesticides dosage system (dosatron)
- Sometimes premix tank
- Type of nozzles: Standard flat fan nozzles, boom jet nozzles or combination (some anti-drift)
- Mostly digital pressure gauge
- Sensors present for bridges, etc. most not automatic, some with GPS.

Results:

- 4 countries with specific training for the operator
- Inspections: 7 countries already, 1 country in 2016
- Mostly by specific protocol based on EN13790/EN-ISO16122
- Mostly special workshops
- No specific testing equipment
- Frequency: 1(2), 3(4),5

Conclusions

- Unknown sprayer types
- Obligatory in EU directive 2009/128/EC
- Specific elements like sensors, dosing system
- Special protocol based on EN-ISO16122:2 needed.
  - What will included:
    - how to test dosage systems (is already in 16122 part 4)
    - How to deal with a pre mix tank
    - How to test detection sensors
- Maybe also standard for new sprayers needed.