SPISE7

INSPECTION SYSTEM FOR IN-USE PESTICIDE APPLICATION EQUIPMENT IN GREECE. FIRST THREE YEARS OF APPLICATION

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INTRODUCTION

• Directive 2009/128/EC was incorporated into Greek law in 2012 with Law 4036.
• However, the system of mandatory periodic inspection of in-use PAE was actually introduced in Greece in 2015.
• Between 2000 and 2015, 17 tests of new machinery according to EN 12761 and 33 tests of in-use PAE according to EN 13790 under the program LIFE07 - EcoPest.
• The first PAE Inspection Stations (PAEIS) was established in September 2015 and the first inspections were made in early 2016.
• PAE inspected in 2016 will be re-tested in 2020 and then every three years, while PAE to be tested for the first time since 2017 and then will be re-tested every 3 years.
INSPECTION SYSTEM FOR PAE IN USE

Greek National Inspection System of In-Use Pesticide Application Equipment

Reference Laboratory of Inspections

Regional Agricultural Equipment Services

Pesticide Application Equipment Inspection Stations

Pesticide Application Equipment Owner
NUMBER & DISTRIBUTION OF PAEIS

- The PAEIS approved (Sept 2015 to Feb 2018) are **149** and are established in **38 prefectures**.
- PAEIS exist in all the prefectures of Thrace, Macedonia, Thessaly, Peloponnese and Crete.
- No PAEIS in Thesprotia and Preveza in Epirus and Fokida and Evritania in Sterea Hellas, and in the Aegean and Ionian islands.
- Most PAEIS are located in the prefectures of Pella (17), Larissa (14), Imathia (10) and Serres (10).
- The majority of PAEIS (43.6%) are located in the Province of Macedonia.

TYPES of PAEIS
All PAEIS (100%) are mobile.

EQUIPMENT of PAEIS
The great majority of PAEIS (98%) use equipment of the least possible cost, avoiding high-tech devices.
OWNERSHIP OF PAEIS

The ownership of PAEIS in Greece is divided in the next categories:

• **136 PAEIS** are private entities (71 are manufacturers-retailers of agricultural machinery).
• **11 PAEIS** are owned by Agricultural Cooperatives.
• **2 PAEIS** are under Universities command.
The majority of inspectors (60.4%) are Agricultural Engineers or Agricultural Engineers (Tech), but Mechanical engineers of both types are also active in this sector.

<table>
<thead>
<tr>
<th>PROFESSION</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Engineers</td>
<td>68</td>
</tr>
<tr>
<td>Mechanical Engineers</td>
<td>42</td>
</tr>
<tr>
<td>Agricultural Engineers (Tech)</td>
<td>22</td>
</tr>
<tr>
<td>Mechanical Engineers (Tech)</td>
<td>17</td>
</tr>
</tbody>
</table>
The registered PAE in the RPAE are 139,283 by February 2018.
From the equipment registered in the RPAE, the machinery to be inspected are **127,274**, as portable equipment is currently exempted from inspections.

<table>
<thead>
<tr>
<th>Type of PAE</th>
<th>Number</th>
<th>PAE for Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air assisted tree and bush Sprayers</td>
<td>27,736</td>
<td>127,274</td>
</tr>
<tr>
<td>Boom Sprayers</td>
<td>76,993</td>
<td></td>
</tr>
<tr>
<td>Sprayers with Lance</td>
<td>22,545</td>
<td></td>
</tr>
<tr>
<td>Knapsack sprayers</td>
<td>11,921</td>
<td></td>
</tr>
<tr>
<td>Fixed/semi-fixed sprayers</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>139,283</td>
<td></td>
</tr>
</tbody>
</table>
The total number of the inspected PAE by February 2018 is **23,583** machines, i.e. **18.53%** of the total PAE (Bourodimos et al., 2018).
AVERAGE INSPECTED PAE per PAEIS

• The average tested PAE per PAEIS is 158.3.
• The data is precarious, because many PAEIS are also active outside the geographic province they belong to.

<table>
<thead>
<tr>
<th>Geographical Province</th>
<th>Mean Inspections per PAEIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>THRACE</td>
<td>310,1</td>
</tr>
<tr>
<td>MACEDONIA</td>
<td>179,4</td>
</tr>
<tr>
<td>EPIRUS</td>
<td>44</td>
</tr>
<tr>
<td>THESSALY</td>
<td>145,1</td>
</tr>
<tr>
<td>CENTRAL GREECE</td>
<td>42,3</td>
</tr>
<tr>
<td>PELOPONNESE</td>
<td>138,2</td>
</tr>
<tr>
<td>CRETE</td>
<td>15,5</td>
</tr>
<tr>
<td>AEGEAN/IONIAN ISLANDS</td>
<td>0</td>
</tr>
</tbody>
</table>
The inspected PAE was divided into 3 groups:

- Boom sprayers (48.2%).
- Air assisted tree and bush sprayers (41.2%).
- Sprayers with Lance, which accounted for (10.6%).
CLASSIFICATION of INSPECTED PAE

- **C I:** Equipment meeting the requirements.
- **C II:** Equipment with minor deviations to be corrected until the next inspection.
- **C III:** Equipment that presents significant deviations from the requirements. No sticker of compliance is issued and the PAE use until its successful inspection is forbidden.
- **C IV:** C III Equipment that its owner with a statement affirms that he wishes to delete it from the RPAE.
DISCUSSION - CONCLUSIONS

- **Satisfactory** number and distribution of PAEIS
- **Lack of PAEIS** in areas with a small number of PAE (discourage investing).
- Since all PAEIS are mobile, the Reference Laboratory is trying to reach an agreement between the existing PAEIS to cover these areas.
- The majority of PAEIS were established with low cost equipment, which affects the time and quality of inspections.
- **Allegations** for PAEIS with inadequate inspections and the Reference Laboratory has begun sampling inspections.
- Particularly high proportion of machinery (97.7%) in Categories I and II:
  1. Any shortcoming is repaired immediately without sending the original Technical Inspection Reports to the Reference Laboratory.
  2. Inadequate controls of PAE by some PAEIS.
- **Inspected PAE are relatively few**, bearing audit should finish on Nov 2016.
- The Ministry is trying to address this situation by linking the **PPP purchases** and the user certificates with the PAE inspection certificates.
- **Need for systematic dissemination** to farmers about the periodic mandatory PAE inspections and the consequences of PAE misuse.
Thank you for your attention!