QUALITY OF COUNTERFEIT
AND ILLEGAL
PLANT PROTECTION PRODUCTS
PPPs QUALITY TESTING IN POLAND

✓ Official quality checking of pesticides for Main Inspectorate of Plant Health And Seed Inspection – 1107/2009, Chapter VIII, Art. 68
✓ Testing of expired products
✓ Testing of interventional pesticides (claims, complaints, prosecutor’s and police orders, orders from users, distributors and producers)
✓ Chemical and phys.-chem. analysis of PPPs, technical concentrates and technical material for registration purposes
TYPES OF COUNTERFEIT AND ILLEGAL PESTICIDES

✓ Pesticides that do not contain an active ingredient, or contain a different active ingredient,
✓ Pesticides whose composition was changed – composition is different from what the label says (e.g. diluted, formulation is different from the one declared on the label),
✓ Not registered in a given country,
✓ Illegally manufactured (products coming from unregistered sources, which imitate a legal product) – mainly from Asia,
✓ Pesticides in unoriginal packaging, and/or with unoriginal label,
✓ Pesticides smuggled in, with a label in a foreign language or no label at all.
POOR QUALITY OF COUNTERFEIT AND ILLEGAL PESTICIDES – EXAMPLES

Reference product

Sample
POOR QUALITY OF COUNTERFEIT AND ILLEGAL PESTICIDES – EXAMPLES

Reference product

Sample
“GOOD” QUALITY OF COUNTERFEIT AND ILLEGAL PESTICIDES – EXAMPLES

Reference product

Sample
“GOOD” QUALITY OF COUNTERFEIT AND ILLEGAL PESTICIDES – EXAMPLES

Reference product

Sample
“GOOD” QUALITY OF COUNTERFEIT AND ILLEGAL PESTICIDES – EXAMPLES

Reference product

Sample

Note:
- No. of tested samples (EC) – 34
- Exceeding allowable limit (0.3%) – 1
- No. of detected counterfeit products – 9
“HIGH” QUALITY OF COUNTERFEIT AND ILLEGAL PESTICIDES – EXAMPLES (GC-MS)

Reference product

Sample
“HIGH” QUALITY OF COUNTERFEIT AND ILLEGAL PESTICIDES – EXAMPLES (HS-GC-MS)

Reference product

Sample
CLUSTER ANALYSIS OF 34 SAMPLES OF PPPs IN EC FORMULATION CONTAINING CHLORPYRIFOS
SUMMARY AND CONCLUSIONS

✓ Quality of counterfeit and illegal plant protection products is increasing (proper a.s., proper level of impurities, similar analytical profile, absence of toxic impurities) - problems with the imposition of penalties
✓ The need for good co-operation between registration department and control laboratory (notification of a change of the formulation components) - rapid distribution of information
✓ Difficulties of the control laboratory:
  • Incomplete documentation (analytical methods for a.s., impurities and co-formulants)
  • Full identification of all formulation components in some cases is almost impossible (some co-formulants in PPPs are themselves mixtures)
  • Lack of tolerance for physical and chemical parameters, content and impurities and co-formulants
  • Over engagement of technical means (equipment capacity, time)
✓ Cooperation, advanced lab equipment
PUBLICATIONS


Thank you for your attention