Why is the use of pesticides for public health such an important issue?

Vector-borne diseases and those with intermediate hosts are among the major causes of illness and death in many tropical and subtropical countries. Such diseases, which include African trypanosomiasis, Chagas disease, dengue, leishmaniasis, lymphatic filariasis and malaria significantly impede economic and social development.

Vector control plays a key role in the prevention and control of major vector-borne diseases such as Chagas disease, dengue, and malaria and often constitutes the first line of defense in case of epidemics of vector-borne diseases.

Safe, cost-effective, and operationally acceptable pesticides are required for public health use. The highly developed pesticides of today, which are formulated for a particular use pattern, require selection and use of the most appropriate active ingredients and formulations for the targeted pest and intended application.

Why are quality pesticide products essential?

Good product quality is essential for effective and safe pesticide use. Impurities formed during manufacture of the pesticide or by interaction in unstable formulations can increase product toxicity to humans and the environment. Applying products that are lower in active ingredient content than declared could result in monetary loss and application of sublethal doses of pesticide, leading to ineffective control and development of resistance.

Considering that very few new insecticide compounds for vector control are coming to the market, a judicious, more selective and targeted use of available insecticides is essential not only to increase their effective lifespan but also for economic and environmental reasons.

WHOPES and its partners promote the development of alternative pesticides and their safe and judicious use for public health.

What about the arsenal of public health pesticides?

Public health programmes are faced with a shrinking arsenal of safe, efficient and cost-effective insecticides. This is mainly due to the resistance of major vectors to common insecticides that have been misused and overused in agriculture. In addition, the withdrawal or abandonment of certain pesticides for reasons of safety or the high cost of re-registration has further reduced the available options.
What are the objectives of WHOPES?

■ To facilitate the search for alternative pesticides and application methods that are safe and cost-effective.

■ To develop and promote policies, strategies and guidelines for the selective and judicious application of pesticides for public health use and to assist and monitor implementation by Member States.

WHOPES collects, consolidates, evaluates, and disseminates information on the use of pesticides for public health. Its recommendations facilitate the registration of pesticides by Member States.

PROGRESS MADE SO FAR

■ Testing and evaluation of 13 public health insecticide products and three types of pesticide application equipment since 1997.

■ Development or revision of specifications for 29 technical materials and 53 formulated public health pesticides.

■ Development of guideline specifications for vector-control equipment, household insecticide products and bacterial larvicides.

■ Strengthening FAO and WHO collaboration on the development of pesticide specifications through the establishment of a joint meeting.

■ Establishment of a unique public-private partnership called 'Global Collaboration for Development of Pesticides for Public Health' (GCDPP) promoting development and safe and judicious use of pesticides in public health. Members of the GCDPP include industry (15), national and government-supported agencies (15), universities and research institutions (8), and regional and international organizations (6).

■ Strengthening collaboration with industry to:
  • improve the cost-effectiveness and operational acceptability of pesticides;
  • identify new application technologies;
  • promote the development of alternative compounds.

FLASH TIPS

Do you know that...

…insecticide-treated mosquito nets reduce the malaria morbidity rate by 50% to 60% and overall child mortality from malaria by 25%–30%? ...

…in the absence of a vaccine, dengue control relies mainly on vector control using insecticides? It is estimated that 50 million dengue infections occur annually, including 500 000 cases of dengue haemorrhagic fever and dengue shock syndrome, with 24 000 deaths, mostly in children.

… indoor spraying of residual insecticides has been the main intervention used to eliminate Chagas disease in South America?

…agriculture has influenced the availability of insecticides for vector control, which constitute only 3% of the global insecticide market?