

## IPM & Market Prospects of IPM

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According to FAO, on an average pests account for 20-40% of yield losses worldwide costing the global economy about 290 billion \$. These losses are considerably higher in developing countries of Asian and African continents where most of the future increase in the world population is expected to happen in the next 10 years. Thus, there is an alarming necessity of developing safe, economical and sustainable methods of pest management in order to assure food and nutrition safety for the future.

### History of IPM (Integrated Pest Management)

The term IPM was first used in the beginning of 1970 when our understanding and knowledge about negative side-effects of pesticides grew up. There grew emphasis on integration of pest biology and cultural practices in controlling the pests. Later IPM extended to include all the tactics of controlling host plant resistance & cultural manipulation became the part of IPM framework. IPM later grew its domain to include entomologists, plant pathologists, nematologists, and weed scientists.

### Principles of IPM

- 1) Prevention and Suppression: Cultural methods are adopted to reduce pest insurgence like crop rotation, deep ploughing, phyto sanitation, etc.
- 2) Monitoring: Monitoring plays vital role in decision making and choosing the right adoptive measures according to the level of damage and level of economic threshold.
- 3) Decision making: Right decisions are taken considering the level of economic threshold. Along with the ETL level, other factors must be taken under consideration like the pest life cycle, resistance of crop, climatic conditions, etc.
- 4) Non-Chemical methods: Indiscriminate uses of chemicals have already lead to vicious cycle of problems like residual effects, biomagnifications of residues in food chain, etc. Prioritizing non chemical methods that can produce satisfactory results is the pivotal principle of IPM.

- 5) Evaluation: Effectiveness of adopted practices and strategies can only be judged after evaluation. Evaluation plays an important role in assessing the suitability of the IPM strategies in long term.

### **IPM Market Prospects**

According to Global Newswire a business research company, IPM (Integrated Pest Management) market is expected to reach close to 153 billion \$ by 2026 due to increase in its usage owing to increase in pest population and resistance. As per reports, growth of IPM management market will propel owing to the growth in pest population due to climate change. Temperature plays a vital role in regulating physiology and metabolism of pests. As the temperature rises, the metabolism rate of pest increases. This further leads to increased consumption of food by the pests as insects eat more to survive.

The Global IPM market size has grown from 105.11 billion \$ in 2021 to 116.04 billion \$ in 2022 at compounded annual growth rate (CAGR) of 10.4%. The market size is expected to grow to 153.31 billion \$ in 2026 at a CAGR of 7.2%. Currently BASF, SE, SGS, Bayer Crop science ltd, Ecolab Inc, Hercon Environmental Corporation are the key players in IPM management market.

### **Conclusion**

IPM is an inevitable strategy needed for ensuring the sustainability of environment and food security. Adequate support for plant protection & research is essential to meet the challenges in adoption of IPM. The coming end of climate change and global warming brings new hazards like rise in pest population and their resistance. Hence IPM becomes the necessity for safeguarding our food and nutrition security.

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