

# STANDARD OPERATING PROCEDURE INTEGRATED PEST MANAGEMENT

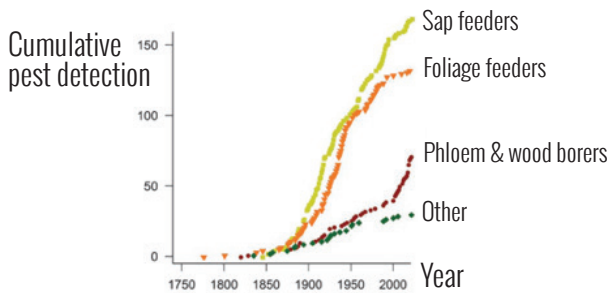
**Integrated Pest Management (IPM) is an ecosystem approach to crop production and protection that combines different management strategies and practices to grow healthy crops and minimise the use of pesticides.** - Food and Agriculture Organisation (FAO).

IPM means the careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations and keep pesticides and other interventions to levels that are economically justified and reduce or minimise risks to human health and the environment. IPM emphasises the growth of healthy crops with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms. - **FAO**.

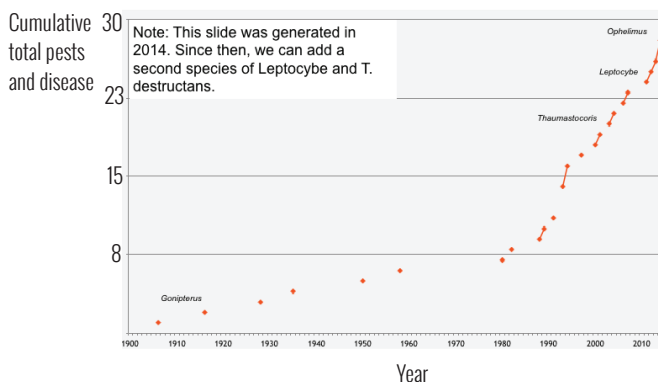
## WHY DO WE PRACTISE IPM?

Global trade routes have enabled the transport of people and goods, including pests, easier than ever before. As a result:

- Globally, there has been an exponential increase in pest and disease incidents:

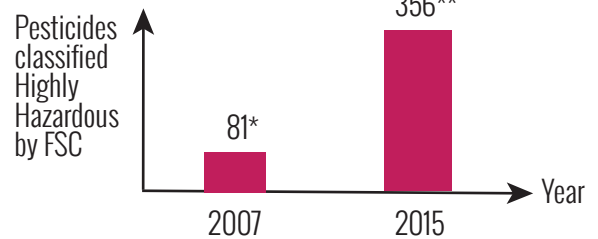


- A trend mirrored in South Africa when looking at the recorded pest and pathogens on Eucalyptus since its introduction:



At the same time:

- The number of chemical pesticides available, particularly in the forestry industry, is continuously being reduced.



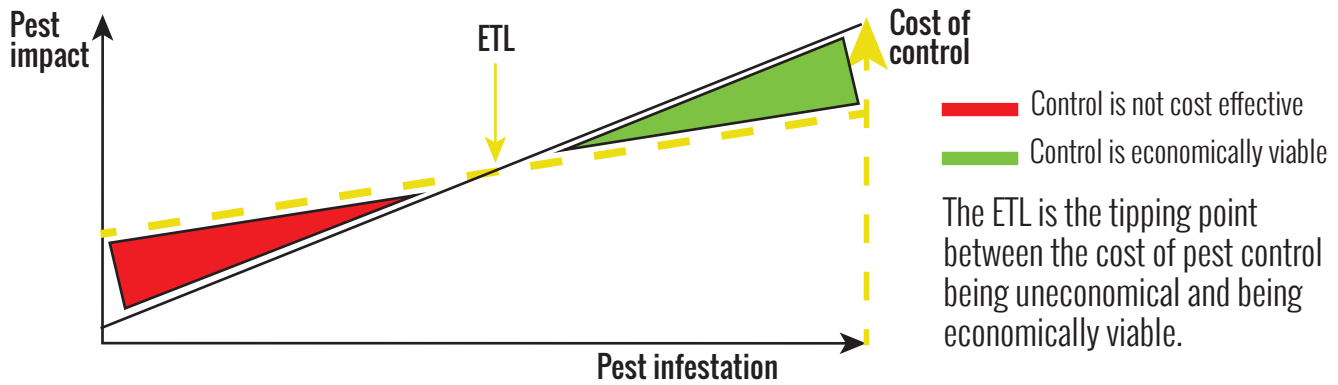
As a result of:

- Increased awareness and understanding about the human health and environmental implications of certain pesticides.
- Increased demand for end-products that are less reliant on chemical inputs during their production.
- Availability of suitable chemical products which are socially and environmentally acceptable.
- Increased demand for certified products, from international certification bodies such as Forest Stewardship Council® (FSC®) and Programme for Endorsement of Forest Certification (PEFC) who have stringent guidelines regarding chemical pesticides and their use.



## HOW DOES IPM WORK?

IPM strategies are based around an Economic Threshold Level (ETL) which sets the level a pest population must reach before treatment to control the pest is considered.



## FACTORS INFLUENCING THE ETL

- Tree species, end-products and demand
- Pest species
- Control methods being implemented
- Climate and prevailing weather conditions
- Stage in the growing season
- Market change - i.e. economic fluctuations

With so many variables the ETL needs constant revision.

## WHAT IS INVOLVED

In a forestry context, IPM involves four mechanisms for pest control. The use of chemical pesticides should always be the last resort.

**1) Genetic control** is the breeding of new species and clones with particular selected traits -i.e. resistance.

**2) Cultural controls** are the practices that reduce pest establishment, dispersal and survival - i.e. site matching, good silvicultural practices, quality control systems.

**3) Biological control** is the use of the pest's natural enemies and physical responses - i.e. predators, parasites, pathogens and competitors and pheromones, to control the pest and their damage.

**4) Chemical control** is the use of chemicals to either control/reduce the population of the pest/pathogen, or induce resistance within the tree.

## THE FIVE PILLARS OF IPM

IPM needs to be proactive to work and continuously evolving for it to be effective. Thus, the IPM model is built on five pillars, with information pertaining to each needing regular collection, assimilation, review and updating.

