CONTENTS & MODULES

IPM PRINCIPLES 3

Decision making

Date (17/11/2010)

WHAT IS…	Decision making is the process that allows the grower to take the decision on applying pest control methods. It is based on the results of monitoring pest populations and should be taken in the context of observed abiotic (soil, weather, etc.) conditions and biotic (pests, natural enemies, etc.) elements in the field.
WHY	Proper, scientifically sound decisions can be taken via the decision making process. This considers the environmental, health and economic impacts which are part of an Integrated Pest Management strategy.
HOW	Decision making should be conducted considering the outcome of the monitoring activity and based on sound decision rules. Economic, health and environmental impact have to be taken into account during decision making. End users may consider threshold levels, where they are feasible and applicable. There are four types of threshold levels: ► Visual threshold (minimum density of the pest, at which it can be observed) ► Damage boundary (the level at which damage can be observed) ► Action threshold (below the economic injury level: at this point end users should apply a plant protection measure to keep an increasing pest population from reaching the economic injury level) ► Economic injury level (a pest population which is capable of causing damage in which treatment costs are balanced with the resulting benefit of treatment). Robust and scientifically sound threshold values are essential components for decision making. However these threshold values should be interpreted in the context of local farming and cultivation conditions. Decision Support Systems (DSS) support this process. DSS are – almost exclusively – computer-based data processing mechanisms where the end user has to 'feed' the system with appropriate input data.
EXAMPLE	IN the ENDURE project, a group of ENDURE experts collected and reviewed several DSS used in various crops and orchards: ► Diseases in horticultural crops (18 DSS) ► Diseases in arable crops (37 DSS) ► Pests (18 DSS) ► Weeds (9 DSS)

SOURCES	► For concrete examples of DSS, see the draft Guidance Document for establishing IPM principles (http://www.endure-network.eu/about_crop_protection/european_documents : BIPRO 2009 reports) ► **on the** ENDURE Information Centre **:** → keywords: measure = decision support systems *or* thresholds ► **on the ENDURE website:** http://www.endure-network.eu/about_endure/all_the_news/dss_helping_farmers_make_smart_decisions
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