

FOCUS ON THE ACTION SHEET

Tools for developing or updating guidelines that promote the proper application of IPM general principles as understood by Agrowise. Even if an action sheet focuses on a action in the field, building an action sheet requires the **participation of other stakeholders** who, as such, can also become sources of information.

AN ACTION SHEET CONTAINS

- ✓ A description of the action
- ✓ The expected effects after its implementation in the field
- ✓ The means of monitoring its implementation over time

The D6.2 example of an action sheet aimed at implementing the following directive *"Use tolerant/resistant varieties included in the list of eligible varieties in order to reconcile resistance gene management with a significant reduction in damage"* and should address these questions:

1. HOW IS THE SUFFICIENT LEVEL OF RESISTANCE DEFINED ?
2. WHICH VARIETIES ARE GOING TO BE ELIGIBLE ?
3. HOW CAN THIS LIST BE DRAWN UP ?
4. HOW WILL THE RISKS (OF RESISTANCE CIRCUMVENTION) BE MANAGED ?

An action sheet is a technical support document. **Organisational and socio-technical obstacles are presented in deliverable 6.1.**

AN ACTION SHEET CONSISTS OF 2 ITEMS

DESCRIPTION OF THE ACTION

- Synthetic description of the action.
- Describe the cropping system without using the action.
Plant use and renewal dynamics; Standard interventions concerning this usage; Variety selection criteria; Fostering integration of disease management into variety choice; Implications for active prophylaxis.
- Describe the transformation of the cropping system.
- Define the eligibility of the items based upon average effectiveness.
Linking resistance scores to service provided (*involve research and innovation*).
Creation of a service oriented variety list (*involve research and innovation*).
- Assess the parameters influencing the effectiveness of the practice.
Context dependency factor parameters : Climate, Soil characteristics, Landscape structure, Biodiversity, Pest pressure and Temporal/Legacy Effects.
- Define the agronomic service provided.
- Assess anticipation and duration of practice (ASP parameters).

MONITORING THE IMPLEMENTATION OF THE ACTION

- Find information about action's deployment.
Tracking deployment through certified plant sales (*involve plant suppliers*).
Incorporating farm saved plant practices (*involve research and innovation*).
- Measure the current deployment of the action.
- Measure the potential deployment of the action.
- Identify useful combinations possible with other actions.
- Assess the additional investments required due to the new practice.

The responsibility to create and implement Active prophylaxis practices must be shared with the other Stakeholder in the chain - upstream and downstream.

Deliverable 6.2
SCAN ME!



D6.2

Agrowise



RECOMMENDATIONS TO DRAFT INTEGRATED PEST MANAGEMENT (IPM) GUIDELINES

In line with the objectives of Directive 2009/128/EC on the sustainable use of pesticides (SUD), the Agrowise consortium has developed practical guidelines for sustainable crop protection in **collaboration with Member State representatives and experts**. These guidelines translate the general principles of IPM, as outlined in Annex III, into operational directions for farmers. Based on the taxonomy defined in Deliverable 2.1, the consortium established criteria to ensure the concrete application of IPM principles in farming practices. The resulting framework does not restrict possible actions but enables farmers to adapt solutions to their specific contexts. While centred on farm-level implementation, the guidelines also engage the wider ecosystem of **innovation**, transformation, and market integration, reflecting the **shared responsibilities of all actors at Member State level**.

APPROACH FOR DRAFTING NEW GUIDELINES

- ✓ Guidelines are intended to be applied **in a field**. They must be **written on the scale of a cultivation action**.
- ✓ Guidelines **may take several forms**: checklists for farmers or comprehensive systems whose implementation on farms is certified (see Vegaplan in Belgium).
- ✓ Guidelines must include processes to verify and support their adoption. The processes should **not overburden farmers but rather involve other stakeholders in the chain** In short: **Member States retain some flexibility** in determining the level of precision of their guidelines, but **a robust verification and monitoring system is essential to confirm their actual implementation**.
- ✓ Monitoring of the deployment of innovative practices, and support of these practices based on the general principles of integrated pest management can be carried out by **IPM-certified advisors**.
- ✓ Guideline **monitoring mechanisms can be implemented** by national systems such as the CEPP system in France, which provide **valuable models for ensuring compliance and continuous improvement**.
- ✓ **Prioritize Active prophylaxis actions** : Each practice employed in the field must be applied with a **clear intention**, aligned with the objective of the corresponding principle. Example: Crop rotation (from principle 1 – prevention) must be designed to achieve specific agronomic and ecological results.
- ✓ The guidelines focus on the technical conditions that impact an action. They are complemented by public policy instruments to remove socio-technical barriers and address lock-in situations. The objective is to **ensure the economic viability and technical reliability of the IPM practices undertaken**.

By building on the IPM taxonomy in Deliverable D2.1, providing clear operational guidance, and establishing robust monitoring mechanisms, the guidelines can enable consistent, verifiable, and effective implementation of IPM across the European agricultural landscape.

PRINCIPLES OF INTEGRATED PEST MANAGEMENT (IPM)

Advanced definition of the Integrated pest management by **Agrowise**

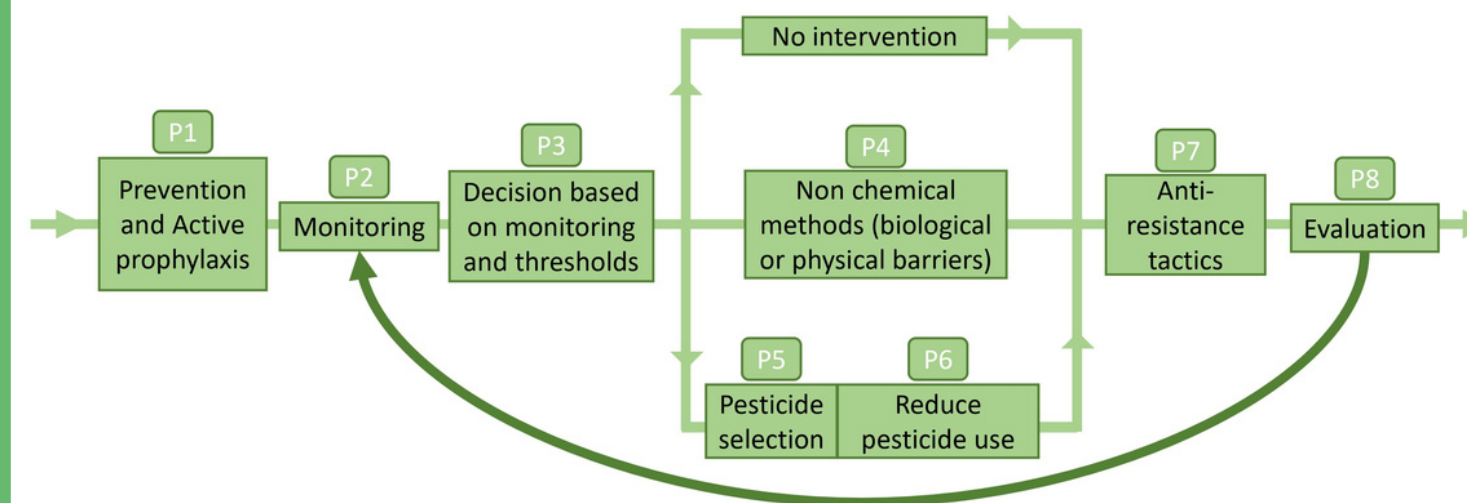
AGROWISE RECOMMENDATION

PRECISE REQUIREMENT EXAMPLE

PRINCIPLE 1

Principle 1 should be achieved by **promoting active prophylaxis** intending to reduce the pressure of harmful organisms, as a set of priority practices (baseline). Context-dependent practices must be supported as voluntary practices.

Practices that depend on the landscape and pest dynamics will be given priority support at regional level and by stakeholder groups or farmer's groups.



Agrowise proposes a definition of IPM that builds upon Article 14 and Annex III (SUD), and addressing current implementation gaps and long-term sustainability challenges. According to Agrowise, correct application of IPM begins with the fundamental implementation of Principles 1 (Prevention), 2 (Monitoring) and 3 (Decision), and extends through compliance with Principles 7 (Limiting resistance) and 8 (Evaluation). This sequence ensures that pest pressures are anticipated and addressed strategically, rather than being managed primarily through reactive chemical interventions.

PRINCIPLE 1

Grow resistant varieties: Wheat resistant to septoria, brown or yellow rust; according to a threshold based on their VCUS ratings.

Grow mixed rapeseed varieties: Include varieties that flower 10 days earlier. **Rotation:** Incorporate a rotation that aims to prevent the arrival or establishment of a pest: at least 3 crops and sow them in at least two separate sowing periods: January to June and June to December. If this is not possible, then the farmer should include a cover crop.

PRINCIPLE 7

Principle 7 : should be amended to mandate an anti-resistance strategy integrated across all IPM principles.

PRINCIPLE 7

Principle 7: Introduction of resistant varieties (see principle 1) and other active prevention measures. Use monitoring, intervention thresholds and consult advisors to improve anticipation (see principles 2 and 3). Principles P1, P2 and P3 open up more possibilities for the use of non-chemical solutions (see principle 4). When using biological control products, it is necessary to respect the doses and be cautious when using active substances, which must be changed regularly (see principle 7). Finally, evaluate the strategy (P8) used in terms of anti-resistance functions.

PRINCIPLES 2 & 3

Principle 2 : Support the establishment of detailed monitoring systems to know, identify and track precisely **pest dynamics** over major crops. Indeed, these systems provide farmers with accurate information to **anticipate risks**, guide intervention decisions, and **promote the development and implementation of innovative non-chemical methods**.

Principle 3 : It is necessary to **adapt or establish specific thresholds** for the full range of intervention methods (including threshold for mechanical actions, for the use of micro-organism, as well as for sowing strategies and the tailored implementation of service plants). The **sharing of intervention thresholds** amongst farmers and even amongst countries is to be sought. Economic thresholds alone are insufficient; if used, they **must account for hidden costs**, yet the most robust approach is to base thresholds on biological modelling.

PRINCIPLE 8

Principle 8 : Should enable regular evaluation of the effectiveness of applied measures, both throughout the season and annually, taking into account technical results as well as the farmer satisfaction with the interventions carried out.

PRINCIPLE 8

Principle 8: Farmers must evaluate their strategy. **Are they satisfied with their crops and the control methods used, incorporating all principles from start to end?**

Adaptation of new strategies and advice from third parties.

PRINCIPLE 2 & 3

Principle 2 and Principle 3: Knowledge of pests and diseases harmful to crops, strategies implemented by other farmers under the same local conditions.

Carry out regular field observations: Observe population dynamics, number of pollen beetles on rapeseed, number of bites by weevils on peas, etc.

Monitoring using traps (visual or olfactory) that are often specific to pests: Observe the dynamics of Mediterranean fruit fly populations in orchards using specific traps.

These observations enable decisions to be made and are supplemented by: **Modelling prediction:** Climate or pest (life cycle, presence). **Use of thresholds adapted to innovative measures:** Inform your decisions, learn about the decisions of other farmers subject to the same pressures. Need to establish or use thresholds adapted to innovative non-chemical techniques (exist for the purpose of causing confusion or closing nets).



ACTIVE PROPHYLAXIS IS THE DELIBERATE INTEGRATION OF PREVENTIVE PURPOSE INTO EVERY STAGE OF CROP MANAGEMENT, TREATING EACH AGRONOMIC DECISION – FROM SOWING DATE TO HARVEST METHODS – AS A MEANS OF REDUCING PEST PRESSURE. IT TRANSFORMS PREVENTION FROM A PASSIVE PRINCIPLE INTO AN ACTIVE DESIGN STRATEGY, STRENGTHENING THE RESILIENCE AND SUSTAINABILITY OF AGRICULTURAL SYSTEMS.