



**IOBC-WPRS Integrated production guidelines:
a tool for the formulation of regional and
national IP/IPM guidelines**

Carlo Malavolta

(Emilia-Romagna Region – Bologna – Italy)

Aude Alaphilippe

(INRAE – Valance- France)

IOBC-WPRS

www.iobc-wprs.org

The IOBC 2018 Integrated Production Standard



- **IP (Integrated Production) is a concept of sustainable agriculture based based on agro-ecology and a system approach that aims at contributing to sustainable, resilient, profitable and robust farming systems.**
 - The agronomic preventive measures and biological/physical/chemical methods are carefully selected and balanced to safeguard the protection of the environment and the health of workers and consumers.
 - Emphasis is placed on a holistic systems approach involving the entire farm as the basic unit, on the central role of agro-ecosystems, on balanced nutrient cycles, and on the welfare of animals in animal husbandry.

- **IPM (Integrated Pest Management) is the part of IP focusing on pest and disease management.**

The IP guideline commission (1991-)



Objectives – support and facilitate implementation of IP/IPM

- To **establish a reference** (framework and guidelines)
- To support any organisation or individual that seeks to implement IP in practice by developing tools that enables and **supports the implementation of IP into practice** (Toolbox)
- To **promote** IPM and IP and **support steps towards practical implementation** of IP and IPM undertaken **by governments, NGO's, farmers organisations, companies or retailers.**
- To **benchmark** any regional organisations that wants to produce certified IP products (benchmarking procedure)

Integrated production (IP) concept



- **Integrated Production is a concept of sustainable agriculture.**
 - It emerged in the 70's from this IPM work
 - and developed in 1976 and gained international recognition
 - The **principles and objectives of IP** evolving during the 1980s
 - compiled and formulated by an IOBC panel of experts in 1992, **first published in 1993 (IOBC/WPRS Bull. Vol. 16 (1), 1993).**
 - The document and vision was updated in the 2nd edition of 1999 and in the 3rd Edition 2004.

- The **2018 IOBC Objectives and principles for Integrated production** offer **the basic principles and objectives for IP** as a sort of compass to navigate the use of technologies.

IP Guidelines



- **It consists of 3 different documents**
- ✓ **IP objectives and principles:** general concept/framework of IP
- ✓ **General technical guidelines for IP production of annual & perennial crop:** provide the general agronomic rules and minimum requirements (mandatory minimum & recommendation)
- ✓ **Crop specific guidelines:** are prepared on the basis of the '*General technical guidelines for IP production*' with crop specific aspects and contain a list of 'must' and 'should' items.

The three levels in the guidelines belong together and should be considered and applied integrally.

- **Guidelines compiled based on expertise of WG**

IP commission members



Carlo Malavolta (Chairman)

DG Agricoltura, Regione Emilia-Romagna, Bologna, Italy



Aude Alaphilippe - INRAE - Valence, France



Bärbel Gerowitt - University of Rostock, Germany



Adriana Escudero - IRTA, catalonia, Spain



Hilfred Huiting - Wageningen University & Research,
the Netherland



Liaison:

Claudio Ioriatti, Italy

Website: <http://iobc-wprs.org>



International Organisation for Biological and Integrated Control
West Palearctic Regional Section

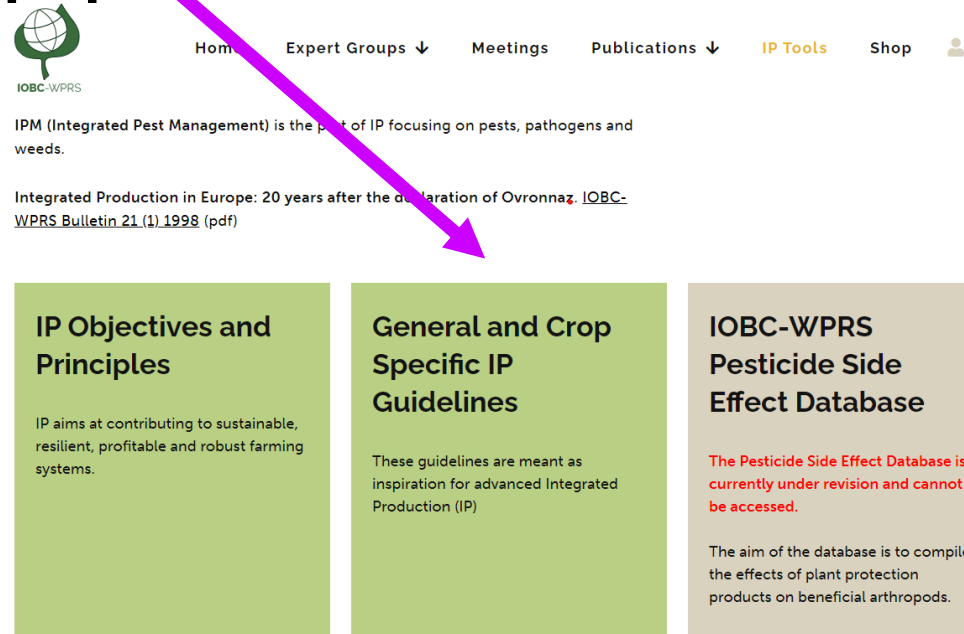
Make a Difference and Join us.

IOBC-WPRS is one of six Regional Sections of the International Organisation for Biological Control. IOBC was established in 1955 to promote environmentally safe methods of pest and disease control in plant protection.

© IOBC WPRS, Commission "guidelines for integrated production"

Website: IP tools section reworked

- New section «IP tools »: <https://iobc-wprs.org/eu-ipm-toolbox/>
- Including «General and Crop specific Guidelines»



The screenshot shows the IOBC-WPRS website header with navigation links: Home, Expert Groups ↓, Meetings, Publications ↓, IP Tools, and Shop. Below the header, there is a paragraph about IPM (Integrated Pest Management) and a link to a PDF document titled 'Integrated Production in Europe: 20 years after the declaration of Ovronnaz. IOBC-WPRS Bulletin 21 (1) 1998 (pdf)'. Below this, three cards are displayed:

- IP Objectives and Principles**
IP aims at contributing to sustainable, resilient, profitable and robust farming systems.
- General and Crop Specific IP Guidelines**
These guidelines are meant as inspiration for advanced Integrated Production (IP)
- IOBC-WPRS Pesticide Side Effect Database**
The Pesticide Side Effect Database is currently under revision and cannot be accessed.
The aim of the database is to compile the effects of plant protection products on beneficial arthropods.

IP General & Crop specific guidelines



Framework – Standard for integrated production with 13 chapters

IP crop specific guidelines define the region specific details:

- traceability
- biodiversity and ecological infrastructures
- site selection and site management
- rotation/cropping system
- soil management
- propagation material, cultivar choice etc.
- plant nutrition
- irrigation
- integrated crop protection and weed control
- harvest
- post harvest management and storage
- GHG
- worker health, safety, welfare

General technical and Crop specific guidelines



General Technical and Crop Specific IP Guidelines	
Pome Fruits, 6th edition, 2019	→
Citrus, 6th edition, 2022	→
Grapes, 5th edition, 2020	→
Olives, 4th edition, 2018	→
Soft Fruits, 5th edition, 2018	→
Stone Fruits, 5th edition, 2019	→
Field Grown Vegetables, 2nd edition, 2016	
Brassica Crops: Cauliflower, Broccoli, Head Cabbages, Root and Leaf Brassicas	→
Apiaceae Crops: Carrots, Fennel, Celery, Celeriac	→
Alliaceae Crops: Leek	→
Alliaceae Crops: Onions, Shallots, Garlic	→
Asteracea Crops: Lettuce, Endive, Escarola (excluding Witloof)	→
Solanacea Crops: Potatoes (excluding seed production)	→
Solanacea Crops: Tomatoes (processing)	→
Solanacea Crops: Tomatoes, Pepper, Eggplants	→
Chenopodiaceae Crops: Spinach, Silverbeet	→
Leguminosae Crops: Beans, Peas, Green Beans (fresh and processing)	→
Cucurbitae Crops: Melon, Watermelon, Squash	→
Cucurbitae Crops: Zucchini and Cucumbers	→
Arable Crops, 2nd edition, 2019	
Winter Cereals	→
Spring Cereals	→
Oilseed Rape	→
Sugar Beet	→
Potatoes	→
Dry Leguminosae: Peas, Faba Beans, Lupins, Lentils	→
Soybeans	→
Maize	→
Sorghum	→
Sunflowers	→
Alfalfa (for plant biomass production)	→
Fodder Crops: Ley-grass, Grass/Clover Mixtures, Clovers (maize – see maize, fodder beets – see sugar beets)	→

© IOBC WPRS, Commission "guidelines for integrated production"

Guideline free download



Guideline format update

- Confirmed the incorporation of the General Technical Guideline into Crop Specific Technical Guidelines (possible fast switch)
- Easy online access to all Guidelines with direct download as PDF



General Technical & Crop Specific Guidelines for Integrated Production

The overall aim of IOBC-WPRS Guidelines on Integrated Production is to provide inspiration for a consistent and integral application of Integrated Production principles in different production systems. These guidelines offer a framework for the formulation of regional or national guidelines and standards and facilitate harmonization of these concepts and guidelines at an international level.

The IOBC-WPRS IP publications are published by the Commission on IP Guidelines. They are elaborated with the help of the IOBC-WPRS Community notably the members of the different Working and Study groups and/or ad hoc expert panels (see references in the editor lists of each publication). The different publications are updated regularly.

General Technical and Crop Specific IP Guidelines

Pome Fruits, 6th edition, 2019	→
Citrus, 6th edition, 2022	→
Grapes, 5th edition, 2020	→
Olives, 4th edition, 2018	→
Soft Fruits, 5th edition, 2018	→
Stone Fruits, 5th edition, 2019	→

Field Grown Vegetables, edition 2016 confirmed in 2023

Brassica Crops: Cauliflower, Broccoli, Head Cabbages, Root and Leaf Brassicas	→
Apiaceae Crops: Carrots, Fennel, Celery, Celeriac	→
Alliaceae Crops: Leek	→
Alliaceae Crops: Onions, Shallots, Garlic	→
Asteraceae Crops: Lettuce, Endive, Escarola	→

General + Crops Specific view

be corrected before planting.

↑ ↓	STRICT RULES	RECOMMENDATIONS
4. CROP ROTATION /SEQUENCE	<i>Crop rotation/sequence is a major method to improve soil quality and to prevent pests, diseases and weeds.</i>	
4.1 Annual crops: Frequency and sequence	Not applicable.	Not applicable.
4.2 Perennial crops: Crop sequence and inter/cover crops	<p>When re-planting a perennial crop:</p> <ul style="list-style-type: none"> To avoid pathogen transmission and a less vital crop development in the first years after plantation replanting of same crop is only to be admitted in IP guidelines on a case by case analysis. Also agronomic characteristics and period of plantation should be chosen to reduce these risks. Cover and catch crops have to be considered integrally in the design of the orchards. <p>A minimum of one year break between two plantations.</p>	<p>The use of leguminous crops (Leguminosae/Fabaceae) as cover crops to improve soil structure, weed control and soil fertility is recommended; Leguminous crops fix N from the air and can contribute thus to the N supply.</p> <p>It is recommended to use a break crop (e.g. 1-year break: preferably grass, winter cereal or others; 2–3 years break: mixture of Fabaceae, Sinapis alba and others) before re-planting to homogenize the soil, and also to improve soil structure and fertility and possibly control specific pests, diseases and perennial weeds.</p> <p>Elimination of sources of disease inoculum (i.e. roots of old plants) is recommended before replanting.</p>
4.3 (Inter) cover crops	<p>Cover crops contribute to maintenance of soil physical property (erosion and compaction) (5.1) and soil fertility (7), enhancement of biodiversity (see 2), control of pest and diseases (see 9.1) and prevention of leaching of N.</p> <p>In perennial crops, cover crops must be used in the alleyways.</p> <p>Specific attention to possible host for <i>Halyomorpha halys</i>.</p>	
4.4 Any further sub-		

Crops Specific view only



IOBC-WPRS

↑ ↓	STRICT RULES	RECOMMENDATIONS
4. CROP ROTATION /SEQUENCE	<i>Crop rotation/sequence is a major method to improve soil quality and to prevent pests, diseases and weeds.</i>	
4.1 Annual crops: Frequency and sequence	Not applicable.	Not applicable.
4.2 Perennial crops: Crop sequence and inter/cover crops	A minimum of one year break between two plantations.	It is recommended to use a break crop (e.g. 1-year break: preferably grass, winter cereal or others; 2–3 years break: mixture of Fabaceae, <i>Sinapis alba</i> and others) before re-planting to homogenize the soil, and also to improve soil structure and fertility and possibly control specific pests, diseases and perennial weeds. Elimination of sources of disease inoculum (i.e. roots of old plants) is recommended before replanting.
4.3 (Inter) cover crops	Specific attention to possible host for <i>Halyomorpha halys</i> .	
4.4 Any further sub-chapter, e.g. for protected crops		

Future updating



- **IP Crop Specific guidelines update and new edition:**
 - ✓ Protected crops (1st edition)
 - ✓ Crop specific GIs updated every 4-5 years
- **IP General technical guidelines updating:** under discussion

Contacts with EU and other organizations for effect on policy



- **Annex III of the Sustainable use of pesticides Directive 2009/128 (SUD)** is strongly coherent with IOBC/WPRS Integrated Production Guidelines
- **IP Commission members were involved from the beginning (2009)** in the EU expert group on the Thematic Strategy on **the sustainable use of pesticides** (under Directive 2009/128 – SUD).
- The documents produced by the IP Comm are still considered **-standard for both, a mandatory and a higher agro-environment level of IPM** (or IP, respectively), as for example requested by SUD (including BTSF Training courses on SUD/IPM).

Contacts with EU and other organizations for effect on policy



- **IOBC/WPRS and IP members were regularly asked by EU DG-Agriculture representatives to discuss IP and the EU Sustainable use of pesticides strategy and the Common Agricultural Policy for the future**
- **A possible future use of IP GLs could be the base for definition of regional/national IPM guidelines** in case of approval of the SUR (Sustainable use of pesticide Regulation) proposed by the EU Comm at the end of 2023 as application of the “Green deal” in future CAP 2023-2027

Commission SUR proposal (on IPM)



- **IPM crop specific rules**
 - ✓ obligations for MS: 90% of UAA (binding after 2 years of entry into force), annual revision and annual reporting on progress and implementation
 - ✓ Obligations for professional users: to comply with them
 - ✓ Commission oversight on them

- **Records on IPM**
 - ✓ any intervention, thresholds for chemical intervention
 - ✓ records of annual training
 - ✓ Other items

- **Check SUD web-portal for more information**
 - ✓ https://ec.europa.eu/food/plants/pesticides/sustainable-use-pesticides_en
 - ✓ <https://datam.jrc.ec.europa.eu/datam/mashup/IPM/>

Contacts with EU and other organizations for effect on policy



- After first contacts with Pesticide Action Network Europe in 2009, the majority of contacts with EU representatives from DG-Agriculture, DG Environment and EU-member states were facilitated by PAN Europe representatives.
- **The main topic was always the EU Directive on the Sustainable Use of Pesticides.**
- **According to Exec Comm decision, the IP Comm has focused on support for PAN's constructive impact on policy making towards progress in implementing IP/IPM** but not in getting associated with the extreme "no pesticide"-attitude of PAN.
- **Same approach was taken with IBMA, AREFLH and other similar organizations to collaborate in IPM and IP application.**

CONCLUSIONS



- **IOBC/WPRS IP GIs have been and could be important tools to promote the application of technical/scientific based principles of IP and IPM**
- **A special thanks all IOBC WG Chairman and Members and to Giselher Grabenweger as IOBC/WPRS President that always act as in a very intensive and collaborative way to promote IP GIs!!**



**Thank you for your attention
and
join IOBC!**

Carlo Malavolta

(Emilia-Romagna Region – Bologna – Italy)

www.iobc-wprs.org

Aude Alaphilippe

(INRAE – Valance- France)

IOBC-WPRS