IOBC
OILB

WPRS *International Organisation for Biological and Integrated Control of Noxious Animals and Plants: West Palaearctic Regional Section*

SROP *Organisation Internationale de Lutte Biologique et Integrée contre les Animaux et les Plantes Nuisibles: Section Régionale Ouest Paléarctique*

IOBC/WPRS Commission "IP Guidelines and Endorsement"

Evaluation Scheme for Crop Specific Guidelines

Pome and Stone Fruits

(Version 08.05.2003)

Objectives and Procedures

Having passed the first evaluation done by the Commission (General Evaluation Scheme for the general fulfilment of the requirements of IOBC guidelines I and II), the documents submitted by the applying IP-organisation are evaluated in detail for conformity with guidelines III by 2 specialists (referees) nominated by the Commission with the advice of the appropriate IOBC Working Group. One of the referees is located, whenever possible, in the country of the applying organisation and should be knowledgeable in the specific legal and agronomic conditions of the region concerned. The second referee is located in another country.

This evaluation scheme has the objective to allow a standardised evaluation and hence to make the evaluation process transparent for all parts involved. Referees are free to incorporate additional comments.

Synoptic Statement of the Referee

IOBC no.	
Name and country of applying organisation	
Referee	Date of evaluation

I recommend ☐ Acceptance without alterations

☐ Rejection based on point(s) no.

☐ Acceptance with the following proposed alterations to be suggested to the applying organisation (separate page)

Date and signature of the referee

1. DEFINITION OF INTEGRATED PRODUCTION

Do the guidelines clearly define the objectives of Integrated Production concerning

a) the promotion of production systems which respect environment, are economically viable and sustain the multiple functions of agriculture?

1 yes	0 Partly	-1 No

b) the guarantee of sustainable production of healthy, high quality crops whilst minimising pesticide residues?

1 yes	0 Partly	-1 No

c) the protection of farmers` health while handling agrochemicals?

1 yes	0 Partly	-1 No

d) the promotion and maintenance of a high biological diversity in the agro-ecosystems and their surroundings?

1 Yes	0 Partly	-1 No

e) the priority of employing natural regulation mechanisms?

1 Yes	0 Partly	-1 No

f) the preservation and promotion of long-term soil fertility?

1 Yes	0 Partly	-1 No

g) the minimisation of water, soil and air pollution?

1 Yes	0 Partly	-1 No

CHAPTER 1	**Pome Fruit Guidelines**	**Stone Fruit Guidelines**
Maximum number of points	7	7
Number of points achieved		
Number of unacceptable points		

2. PROFESSIONALLY TRAINED, ENVIRONMENTALLY AND SAFETY CONSCIOUS GROWERS

The farmer/farm manager has to

a) be professionally qualified and educated to manage the farm according to IP-principles;

0	Yes	U	No

b) attend an introductory training course and participate actively in regular updating courses offered by the IP-organisations or by official extension services;

0	Yes	U	No

c) be member of an officially recognised IP association and sign a contract with it;

0	Yes	U	No

d) make available for inspections his complete farm records on the essential farm operations, such as fertilisation, pesticide application, soil management, irrigation, according to the rules of the IP association;

0	Yes	U	No

CHAPTER 2	**Pome Fruit Guidelines**	**Stone Fruit Guidelines**
Maximum number of points	0	0
Number of points achieved		
Number of unacceptable points		

3. CONSERVING THE ORCHARD ENVIRONMENT

3.1. The conservation of the orchard environment and the conservation and promotion of the native species of animals and plants in and around the orchards are required

[0] Yes [U] No

3.2. Except where an official and well documented program exists, the guidelines require that for the entire farm surface (excluding forests) the ecological compensation areas cover

[3] > 5% [0] 5% [U] < 5% or not mentioned

3.3. The use of plant species which are hosts of important plant pathogens (i.e. sharka and ESFY in stone fruit orchards) or pests (i.e. *Cacopsylla pruni* in stone fruit orchards) in headlands and windbreaks is forbidden

[0] Yes [U] No

3.4. A list of options to enhance biological diversity is given and at least two ecological options must be implemented by each farmer

[0] Yes [U] No

3.5. The planting of fruit trees at the border of a ditch or open water channel is

[5] Forbidden [1] Disapproved [-5] Not mentioned

3.6. An effective protection of the fruit against exhaust fumes from busy roads, such as hedgerows, is

[3] Required [1] Recommended [-3] Not mentioned

3.7. The guidelines demand monitoring (chemical analysis) of fruit pollution, and the heavily polluted fruit (e.g. Pb) is excluded from the programme

[3] Yes [-1] No

3.8. The formulation and implementation of a conservation plan for the farm is

[3] Required [1] Recommended [-3] Not mentioned

3.9. Is any other measure to enhance functional biodiversity

[3] Required [1] Recommended [0] Not mentioned

State the measure: _____

CHAPTER 3	Pome Fruit Guidelines	Stone Fruit Guidelines
Maximum number of points	20	20
Number of points achieved		
Number of unacceptable points		

4. SITE, ROOTSTOCKS, CULTIVAR AND PLANTING SYSTEM FOR NEW ORCHARDS

4.1. The principles for creating new orchards according to Guideline III rules (site, rootstocks, cultivar, planting system) are pointed out

[0] Yes [U] No

4.2. Chemical soil sterilisation is forbidden

[0] Yes [U] No

4.3. Alternative cultivation measures to control replant problems are recommended

[0] Yes [-3] No

4.4. The selection of sites with a favourable aspect and appropriate soil is required and examples of undesirable sites given

[0] Yes [U] No

4.5. The guidelines include requirements as to which cultivars must be planted on a given site, in order to avoid additional input of chemicals

[0] Yes [U] No

4.6. Cultivars and rootstocks resistant or tolerant to fungal diseases and/or pests and resistant to virus, phytoplasmas, bacteria or nematodes are recommended

[1] Yes [-3] No

4.7. The use of virus-free or virus-tested planting material, wherever available, is

[3] Required [0] Recommended [U] Not mentioned

4.8. For stone fruit guidelines, if mediterranean fruit fly is a problem, cultivars with successive ripening times are adequately separated to avoid its cycle completion

[0] Yes [U] No

4.9. Planting systems (single rows, small trees of uniform size) which demand the lowest possible input of agrochemicals (pesticides, plant growth regulators) are

[3] Required [0] Recommended [U] Not mentioned

4.10. Is any other measure to improve new orchard creation

[3] Required [1] Recommended [0] Not mentioned

State the measure: _____

CHAPTER 4	Pome Fruit Guidelines	Stone Fruit Guidelines
Maximum number of points	10	10
Number of points achieved		
Number of unacceptable points		

5. SOIL MANAGEMENT AND TREE NUTRITION

5.1. Chemical soil analysis prior to planting is mandatory

[0] Yes [U] No

5.2. The correction of the soil pH, if necessary, is recommended

[1] Yes [0] No

5.3. The use of pedological maps is recommended

[1] Yes [0] No

5.4. Plant and/or leaf analyses after planting are required on a regular basis

[0] Yes [U] No

5.5. Soil analysis after planting is required at least every 5 years

[0] Yes [U] No

5.6. Leaf analysis is required

[3] Every year [0] In longer intervals [U] Not specified

5.7. The guidelines set out a clear methodology to determine plant nutrient requirements and fertilisation (sampling, analytical procedures and rules for decision making)

[0] Yes [U] No

5.8. The guidelines specify a reasonable maximum amount of nitrogen, phosphorous and potassium per year and their period and methods of application in order to avoid the pollution of the environment

[0] Yes [U] No

5.9. The guidelines require the records of soil and/or leaf analyses and of all nutrient applications to be kept and made available for inspection

[0] Yes [U] No

5.10. The use of organic fertilisers is recommended

[3] Yes [0] No

5.11. The guidelines require analyses regarding the hygienic and environmental safety of off-farm organic fertilisers

[3] Yes [-3] No

5.12. The guidelines forbid the use of not analysed or possibly hazardous waste compost (heavy metals, pathogens) as fertilisers

[0] Yes [U] No

5.13. Is any other measure to improve soil management and tree nutrition

3	Required	1	Recommended	0	Not mentioned

State the measure: _____

CHAPTER 5	Pome Fruit Guidelines	Stone Fruit Guidelines
Maximum number of points	14	14
Number of points achieved		
Number of unacceptable points		

6. ALLEYWAYS AND WEED-FREE STRIP

6.1. Measures to avoid soil erosion are

3	Required	1	Recommended	-3	Not mentioned

6.2. For pome fruit guidelines: Overall bare soil management is forbidden

0	Yes	U	No

6.3. For stone fruit guidelines: Overall bare soil management throughout the year is forbidden

0	Yes	U	No

6.4. For stone fruit guidelines: Overall bare soil management with herbicides is forbidden

0	Yes	U	No

6.5. For stone fruit guidelines: a temporal overall bare soil management by soil tillage during spring and summer is forbidden in arid areas

3	Yes	0	No

6.6. Alleyways composed by non-competitive grass and herbs are recommended

3	Yes	0	No

6.7. The application of herbicides in orchards with heavy shoot growth is

3	Forbidden	1	Disapproved	-5	Not mentioned

6.8. The guidelines set a sound limit to the size of the weed free strip

0	Yes	U	No

6.9. The development of ground cover in the weed free strip at different periods of the year is

3	Required	1	Recommended

6.10. Non chemical measures to maintain the weed free strip are

3	Required	1	Recommended	-3	Not mentioned

6.11. The permitted surface of herbicide application per ha is

< 33 %	=	3	33 - 50 %	=	0	> 50 %	=	-5

6.12. The application of selective broad-leaf weed herbicides in the alleyways is

3	Forbidden	1	Disapproved

6.13. The guidelines demand longer safe-to-harvest periods for herbicide sprays than the official ones

3	Yes	0	No

6.14. Is any other measure to improve alleways and weed free strip management

3	Required	1	Recommended	0	Not mentioned

State the measure: _____

CHAPTER 6	Pome Fruit Guidelines	Stone Fruit Guidelines
Maximum number of points	27	30
Number of points achieved		
Number of unacceptable points		

7. IRRIGATION

7.1. The guidelines emphasise the importance of an adequate soil moisture and the ecological danger of over-irrigation

[0] Yes [U] No

7.2. The supply of water is calculated according to the requirements of the tree, the soil moisture balance and the water storage capacity, wherever it is possible

[0] Yes [U] No

7.3. The regular observation of rainfall is required where irrigation is necessary, in order to regulate the water supply

[0] Yes [U] No

7.4. A sound maximum water volume that may be supplied is defined

[0] Yes [U] No

7.5. Particular attention is paid to water quality (salt and content of polluting agents)

[0] Yes [U] No

7.6. Is any other measure to improve irrigation efficiency

[3] Required [1] Recommended [0] Not mentioned

State the measure: _____

CHAPTER 7	Pome Fruit Guidelines	Stone Fruit Guidelines
Maximum number of points	3	3
Number of points achieved		
Number of unacceptable points		

8. TREE TRAINING AND MANAGEMENT

8.1. The aims of an integrated tree training management (moderate shoot growth, regular yields, open tree canopy) are emphasised

[1] Yes [0] Partly [-1] No

8.2. Non naturally occurring chemicals used as plant growth regulators are forbidden

[0] Yes [U] No

8.3. The guidelines propose non chemical cultural measures, in order to regulate the shoot growth (reduced fertiliser and irrigation supply, summer pruning or others)

[3] Yes [0] Partly [-3] No

8.4. Which chemicals are permitted for tree management?

Gibberellines [-1] NAA, NAD [-1]

8.5. Is any other measure to improve tree training and management

[3] Required [1] Recommended [0] Not mentioned

State the measure: _____

CHAPTER 8	Pome Fruit Guidelines	Stone Fruit Guidelines
Maximum number of points	7	7
Number of points achieved		
Number of unacceptable points		

9. FRUIT MANAGEMENT

9.1. The importance of cross pollination and the protection of the pollinating insects are emphasised

3	yes	0	partly	-3	No

9.2. Fruit thinning short after blossom is required, when necessary

0	Yes	U	No

9.3. For pome fruit guidelines: chemical thinning is

3	Forbidden	0	Permitted with sound and clear restrictions	U	Permitted without restrictions

9.4. For stone fruit guidelines, chemical thinning with non-naturally occurring substances is forbidden

0	Yes	U	No

9.5. For stone fruit guidelines, chemical thinning with naturally occurring substances is

3	Forbidden	0	Permitted on plum trees with sound and clear restrictions	U	Permitted without restrictions

9.6. The guidelines give recommendations for the use of non chemical cultural measures for fruit management (winter pruning, hand thinning, summer pruning or others)

3	Yes	0	Partly	-3	No

9.7. For pome fruit guidelines: the use of naturally occurring fruit setting agents is forbidden

3	Yes	0	No

9.8. For stone fruit guidelines, the use of naturally occurring fruit setting agents is

3	Forbidden	0	Permitted only on plum and cherry trees with sound and clear restrictions	U	Permitted without restrictions

9.9. The use of non-naturally occurring synthetic plant growth regulators as fruit finishing, colouring or ripening agents is forbidden

0	yes	U	no

9.10. Which chemicals are permitted for fruit management?

Gibberellines	-1	Ethrel	-3
NAA, NAD	-1	Carbaryl	-5

9.11. Is any other measure to improve tree training and management

3	Required	1	Recommended	0	Not mentioned

State the measure: _____

CHAPTER 9	Pome Fruit Guidelines	Stone Fruit Guidelines
Maximum number of points	15	15
Number of points achieved		
Number of unacceptable points		

10. INTEGRATED PLANT PROTECTION

10.1. The decisions for the application of direct control measures are based on economic thresholds, risk assessments and forecasts

[0] Yes [U] No

10.2. The guidelines establish a restrictive list of key pest and diseases that require regular attention

[0] Yes [U] No

10.3. The guidelines give priority to natural, cultural, biological, genetic and biotechnical methods for pest, disease and weed control, minimising the use of agrochemicals

[0] Yes [U] No

10.4. The guidelines identify at least two key natural enemies in each crop in order to preserve their populations

[0] Yes [U] No

10.5. The introduction of phytoseiid mites in unoccupied orchards is

[2] Required [1] Recommended [0] Not mentioned

10.6. For stone guidelines: the preservation of natural enemies of aphids is emphasised

[2] Yes [0] No

10.7. For stone guidelines: the control of *Capnodis tenebrionis* by irrigation is recommended

[1] Yes [0] No

10.8. For stone guidelines: the use of *Bacillus thuringiensis* for leaf roller and noctuid control, where effective, is required

[0] Yes [U] No

10.9. Alternative cultural measures against plant diseases (i.e. timely removal of infection sources from orchards) are

[3] Required [0] Recommended [U] Not mentioned

10.10. The regular monitoring of pests, diseases and weeds and the keeping of the records are mandatory

[0] Yes [U] No

10.11. The preferential use of biological agents and of biotechnical and control techniques is

[3] Required [0] Recommended [U] Not mentioned

10.12. The preferred pesticides are chosen according to their lower toxicity to man and to the environment

[0] Yes [U] No

10.13. The guidelines set out a pest resistance management program that includes the alternation of pesticides with different modes of action and maximum numbers of application of chemicals specially prone to develop resistance

[0] Yes [U] No

10.14. The registered pesticides are allocated to positive "green" (permitted) and "yellow" (permitted with restrictions) lists

[0] Yes [U] No

10.15. The following pesticides are

Pesticides	Forbidden	Permitted with restrictions	Permitted
Pesticides with high human toxicity	3	0	-5
Organochlorines	0	U	U
Pyrethroids	3	-5	U
Residual herbicides (stone fruit guidelines)	0	U	U
Toxic, water polluting or very persistent herbicides (pome fruit guidelines)	0	U	U
Other residual herbicides (pome fruit guidelines)	3	-5	U
Antibiotics	0	U	U
Acaricides	5	2	0
Benzimidazoles	3	0	U
Dithiocarbamates	1	0	U
IBE fungicides (stone fruit guidelines)	1	0	U
Dicarboximides (stone fruit guidelines)	1	0	U
Sulphur	1	0	U
Copper	1	0	-1

10.16. The guidelines give clear indications on how the input of pesticides in kg/ha and year can be minimised

[3] Yes [1] Partly [-3] No

10.17. The guidelines emphasise on lower pesticide residues than officially approved by increasing safe-to-harvest intervals, for example

2	Yes	0	No

10.18. The use of officially recognised dose adjustment protocols, where available, is required

0	Yes	U	No

10.19. For stone fruit guidelines that include peaches, nectarines and apricots

10.19.1. The removal of infested shoots is the mandatory method for controlling *Cydia molesta* and *Anarsia lineatella* when infestation is low or in young orchards

0	Yes	U	No

10.19.2. The circumstances where mating disruption for controlling *Cydia molesta* and *Anarsia lineatella* is not possible are clearly defined

0	Yes	U	No

10.19.3. For the control of *Cydia molesta* and *Anarsia lineatella*, priority is given to IGR or selective compounds

3	Yes	-3	No

10.19.4. The tolerance levels for *Anarsia lineatella* on apricots are specified as number of catches per pheromone trap

0	Yes	U	No

10.19.5. The protection of scale insect natural enemies is properly emphasised

0	Yes	U	No

10.19.6. Chemical control of scale insects is achieved by

3	Only pure mineral oil or polysulphur	1	Idem and/or selective IGR	-3	Other insecticides

10.20. For stone fruit guidelines that include plums and cherries

10.20.1. The monitoring of *Cydia funebrana* and *Rhagoletis cerasi* populations with traps is mandatory

0	Yes	U	No

10.20.2. Chemical control of *Cydia funebrana* is achieved by

3	*B. thuringiensis* or IGR	-3	other insecticides

10.20.3. The use of alcohol-baited traps for *Xyleborus dispar* is mandatory, when necessary

0	Yes	U	No

10.20.4. Cherry cultivars and rootstocks resistant to bacterial canker are selected

3	Yes	-3	No

10.21. Is any other measure to improve pest control

3	Required	1	Recommended	0	Not mentioned

State the measure: _____

CHAPTER 10	Pome Fruit Guidelines	Stone Fruit Guidelines
Maximum number of points	36	44
Number of points achieved		
Number of unacceptable points		

11. EFFICIENT AND SAFE SPRAY APPLICATION METHODS

11.1 The guidelines give clear indications on how the pesticide application can be more efficient and safer to man and the environment

3	Yes	1	Partly	-3	No

11.2. The gradual introduction of less polluting spraying techniques (tunnel sprayers, ULV, transverse flow and others) is

3	Required	1	Recommended	-3	Not mentioned

11.3. A regular service and a thorough mechanical check-up of the sprayer at least every 4 years is required

0	Yes	U	No

11.4. Is any other measure to improve spray application

3	Required	1	Recommended	0	Not mentioned

State the measure: _____

CHAPTER 11	Pome Fruit Guidelines	Stone Fruit Guidelines
Maximum number of points	9	9
Number of points achieved		
Number of unacceptable points		

12. HARVESTING, STORAGE AND FRUIT QUALITY

12.1. The guidelines give recommendations on the optimum harvest time

[0] Yes [U] No

12.2. Stores and refrigeration equipment are regularly checked

[0] Yes [U] No

12.3. The guidelines define minimum standards of the internal fruit quality (including firmness, taste, sugar/acid ratio)

[0] Yes [U] No

12.4. Is any other measure to improve fruit quality

[3] Required [1] Recommended [0] Not mentioned

State the measure: _____

CHAPTER 12	Pome Fruit Guidelines	Stone Fruit Guidelines
Maximum number of points	3	3
Number of points achieved		
Number of unacceptable points		

13. POSTHARVEST FRUIT MANAGEMENT

13.1. For pome fruit guidelines

13.1.1. The use of non-chemical postharvest treatment is

5	Required	1	Recommended	U	Not mentioned

13.1.2. Post-harvest treatments with synthetic non-naturally occurring anti-oxidants are forbidden

0	Yes	U	No

13.1.3. Post-harvest chemical fungicide treatments are

3	Forbidden	0	Permitted with the restrictions imposed in chapter 13	U	Permitted without restrictions

13.1.4. The guidelines give practical indications on how chemical post-harvest treatments can be avoided

3	Yes	0	Partly	-3	No

13.1.5. Environmentally appropriate disposal methods of excess pesticide solution in orchards or post-harvest treatments (pome fruit guidelines) and their packing material are recommended

0	Yes	U	No

13.2. For stone fruit guidelines

12.3.1. Post-harvest chemical treatments are forbidden

0	Yes	U	No

13.3. Is any other measure to improve postharvest fruit management

3	Required	1	Recommended	0	Not mentioned

State the measure: _____

CHAPTER 13	**Pome Fruit Guidelines**	**Stone Fruit Guidelines**
Maximum number of points	11	3
Number of points achieved		
Number of unacceptable points		

SUMMARY OF THE SCORES OF INDIVIDUAL CHAPTERS

		POME FRUIT GUIDELINES			STONE FRUIT GUIDELINES		
		Maximum score	Score achieved	Unaccep-table	Maximum score	Score achieved	Unaccep-table
1	Definitions	7			7		
2	Commitment of the grower	0			0		
3	Conserving the orchard environment	20			20		
4	Site, rootstocks, cultivars, planting system	10			10		
5	Soil management and tree nutrition	14			14		
6	Alleyways and weed-free strip	27			30		
7	Irrigation	3			3		
8	Tree training and management	7			7		
9	Fruit management	15			15		
10	Integrated plant protection	36			44		
11	Efficient and safe spray application methods	9			9		
12	Harvesting, storage and fruit quality	3			3		
13	Postharvest fruit management	11			3		
	All chapters	**162**			**165**		

COMMENTS OF REFEREE ON ENTIRE GUIDELINE AND/OR INDIVIDUAL CHAPTERS ON EXTRA PAGE