

INSPIA

Initiative for Sustainable Productive Agriculture

SEASON 2017-18

THE FARM

1 General information

- a) Name of farm.....
- b) Country
- c) Region
- d) Postal Code
- e) Farmer's age
- f) Farmer's training level (practical experience/basic training/full agricultural training)
- g) Attendance to seminars, conferences or technical field days (hours)
- h) When you retire, do you have a successor to take over the farm? (yes / no)

2 Season farm data

- a) Diesel cost (average).....(€/l)
- b) Soil organic matter (most representative plot, 0-30 cm)
- c) Soil organic matter potential
- d) Wage per hour
- e) Agricultural subsidies

PLOTS DATA

3 Plot1, Plot2.....(for each plot)

- a) Plot name (e.g.: Plot 1)
- b) Field texture (light/medium/heavy)
- c) Area
- d) Soil organic matter.....

For Soil erosion risk indicator, consider the data of main crop in the period of greatest risk of erosion considered

- e) Sand..... (%)
- f) Silt..... (%)
- g) Clay..... (%)
- h) Slope..... (%)
- i) Slope length
- j) Crop type factor (choose from list).....
- k) Tillage Method factor (choose from list)
- l) Support practice (choose from list)

Crop type factor	Factor	Tillage Method	Factor	Support Practice	P Factor
Bare soil	1.00	Fall plough	1.0	Up & down slope	1.0
Grain corn	0.40	Spring plough	0.90	Cross slope	0.75
Silage corn, beans & canola	0.50	Mulch tillage	0.60	Contour farming	0.50
Cereals (spring & winter)	0.35	Ridge tillage	0.35	Strip cropping, cross slope	0.37
Seasonal horticultural crops	0.50	Zone tillage	0.25	Strip cropping, contour	0.25
Fruit trees	0.10	No-till	0.25		
Hay and pasture	0.02				

Within each plot we can define crops, fallows or margin and buffer areas

4 Crop (Please, repeat the questions for each crop of the plots)

- a) Previous crop type
- b) Date of the previous harvest
- c) Crop type.....
- d) Soil management (Direct sowing/minimum tillage/conventional tillage)
- e) Initial date crop (sowing)
- f) Harvest date.....
- g) Sowing(kg/ha) and seed price (€/kg)
- h) Yield(kg/ha) and yield sell price (€/kg)
- i) Crop yield potential (region of farm)..... (kg/ha)
- j) Area..... (ha)
- k) Irrigated (Irrigated/Rainfed)

Note: If you have crops you use irrigation, Irrigation water amount.....(m³/ha)

- l) And Nitrate in water (ppm or mg/l)

5 Operations (Please, repeat the questions for each crop operation).

- a) Operation (Chisel, cultivator, sprayer, etc...).....
- b) Depth value..... (cm)
- c) Gear (Low/intermediate/high)
- d) Engine speed (1500/2000/2500 r.p.m).....

- e) Tractor powerkW or..... HP
- f) Operation working width..... (m)
- g) Speed(km/h)
- h) Number of passes
- i) Working area(% of cropland)
- j) Operation date.....
- k) Machinery costs(€/ha)

Note: In some questions, if you do not know any data the model assigns standard values.

6 Fertilizers consumed (Please, repeat the questions for each operation)

Choose between: Manure/Commercial fertilizer/Custom-made fertilizer

- **Manure**

- a) Fertilizer (e.g.: cow fresh, porcine fresh, chicken, etc.)
- b) Application date
- c) Fertilizer amount..... (kg/ha)
- d) Price per kilogram (€/kg)

- **Commercial fertilizer**

- a) Fertilizer (e.g.: ammonium nitrate, urea, calcium nitrate)
- b) Application date
- c) Fertilizer amount (kg/ha)
- d) Price per kilogram (€/kg)

- **Custom-made fertilizer**

- a) Application date
- b) Nitrogen (%)
- c) Phosphorus..... (%)
- d) Potassium (%)
- e) Fertilizer amount..... (kg/ha)
- f) Price per kilogram (€/kg)

7 Pesticides consumed (Please, repeat the questions for each operation)

- a) Active substance (choose from the list)
- b) Amount (kg/ha or l/ha)
- c) Price (€ per kg or l)
- d) Application date.....

8 Buffer area (into the plot)

- a) Crop type.....
- b) Date of previous harvest.....
- c) Previous crop type
- d) Soil management (no tillage/minimum tillage/conventional tillage)
- e) Initial date crop
- f) Harvest date (or end of buffer area).....
- g) Sowing(kg) and seed price (€/kg)
- h) Area..... (ha)

Note: If necessary, operations and application of pesticides and fertilizers) are also carried out in the buffer areas.

9 Fallow

- a) Previous crop type
- b) Date of previous harvest.....
- c) Soil management (no tillage/minimum tillage/conventional tillage).....
- d) Initial date crop
- e) Harvest date (or end of fallow).....
- f) Area..... (ha)

Note: If necessary, operations and application of pesticides and fertilizers are also carried out in fallow area.

For each plot

Fertilizer type	Application date	Fertilizer amount (kg/ha)	Price (€/kg)

Active substance	Application date	Amount (kg/ha or l/ha)	Price (€/kg or €/l)

10 NATURAL AREAS

- a) Vegetation type (only trees/trees and bushes/only bushes/mixture of trees, bushes and herbaceous/trees and herbaceous/bushes and herbaceous/only herbaceous)
- b) Area (ha)

11 PHYTOSANITARY SURVEY

11.1 - Where do you store the phytosanitary products? (choose one)

- a) On the floor in a non-ventilated warehouse
- b) On a shelf in a non-ventilated warehouse
- c) On the floor in a well-ventilated warehouse
- d) On a shelf in a well-ventilated warehouse
- e) In a designed phytosanitary-products warehouse

11.2 - What kind of training certificate do you hold? (choose one)

- a) Basic Certificate
- b) Skilled Certificate
- c) Fumigator to fumigate Certificate

11.3 - How far away is your usual filling site or your phytosanitary products application equipment cleaning site from the nearest drain, sewer, ditch or water course? (choose one)

- a) Less than 2 metres
- b) 2 - 5 metres
- c) 5 - 10 metres
- d) More than 10 metres

11.4 - Do you have located the drainage of your farm? (choose one)

- a) Yes, I have a comprehensive plan showing where all water drains are
- b) I have a plan but not all the drains are shown
- c) I do not have a plan
- d) I only do the filling in an area located more than 10 meters from the nearest field drain

11.5 - What water source do you usually use for filling the phytosanitary products application equipment? (choose one)

- a) Water tank
- b) Hose with a check valve
- c) Stream or watercourse
- d) A drinking trough

- e) A hose directly connected to a main water supplier source

11.6 - Where and when do you check your main sprayer? (choose one)

- a) I check it outside a designated area for checking the sprayer before filling the phytosanitary products application equipment.
b) I check it inside a designated area for checking the sprayer before filling the phytosanitary products application equipment
c) I check it outside a designated area for checking the sprayer after filling the phytosanitary products application equipment
d) I check it inside the area of product management after filling the phytosanitary application equipment regularly checking for drips and leaks
e) I regularly checking for drips and leaks

11.7 - In what type of ground surface do you usually fill your sprayer in? (choose one)

- a) A concrete surface draining to a drain
b) A concrete surface draining to a farmyard drain
c) A concrete surface with no visible drain
d) Bare soil
e) A crop field

11.8 - Where do you usually measure out most of your chemicals? (choose one)

- a) On the floor/ground, filling area
b) On a dedicated table
c) On a tray attached to the induction bowl
d) I always use exact pack sizes

11.9 - What do you do with if an eventual phytosanitary solution remains in the sprayer? (choose one)

- a) I spray it on a treated crop (below the maximum dose)
b) I spray it on an untreated crop
c) I spray it on a waste ground
d) I empty the tank in a drain
e) I empty the disposal tank on an authorized area

11.10 - After the cleaning of the inside of the sprayer, what is with the waste waters? (choose one)

- a) They are stored into a holding tank for its disposal in an authorized area
b) They are poured on the crop fields

- c) They are poured on a soakaway
- d) Line Biobed
- e) They are stored in a drain for a later professional disposal

12 BIODIVERSITY STRUCTURES

12.1 - Have you seen any nest on the plot? (choose one)

- a) rarely
- b) occasionally
- c) sometimes
- d) usually

12.2 - Have you seen any hives on the plot? (choose one)

- a) rarely
- b) occasionally
- c) sometimes
- d) usually

12.3 - Have you seen any spider webs on the plot? (choose one)

- a) rarely
- b) occasionally
- c) sometimes
- d) usually

13 SATISFACTION INDEX

13.1 - Are you satisfied with the current management practices implemented in the farm?

0 (Not Satisfied at all), 1, 9, 10 (Totally satisfied)

13.2 - Do you think the management could be improved?

0 (Not Satisfied at all), 1, 9, 10 (Totally satisfied)

13.3 - Would you be willing to adopt different management practices in order to improve the sustainability of the farm?

0 (Not Satisfied at all), 1, 9, 10 (Totally satisfied)

13.4 - Would you recommend to your offsprings to make a living farming?

0 (Not Satisfied at all), 1, 9, 10 (Totally satisfied)

14 BMPs

Score between 0 (Not implantation) and 10 (Totally implantation) the following questions

	BMPs	Implementation rates (0-10)
1	Use permanent soil cover (green cover or residue cover)	....
2	Use of minimum soil disturbance practices	....
3	Use of groundcovers (in perennials)	....
4	Perform suitable crop rotation/diversification	....
5	Perform farming operations following the contour lines	....
6	Fertilize according to soil deficiencies and crop needs	....
7	PPP use according to Integrate Pest Management Strategy (IPM)	....
8	Use modern technologies for applications (Precision Agriculture)	....
9	Optimise irrigation timing and rate (considering soil water content, soil water holding capacity and crop requirements in relation to evapotranspiration)	....
10	Optimise use of PPPs (dose and appropriated products)	....
11	Implementation of field margins and buffer strips with diversity of plant species	....
12	Establish and maintain riparian buffer	....
13	Build retention structures across the slope to reduce length of plots (fascines, vegetative buffers)	....
14	Point source prevention of PPP pollution in the farm (establishment of areas to fill sprayers and manage liquids resulting from cleaning sprayers on the farm)	....
15	Perform an optimized waste management in the farm (specific areas) (packaging, crop residues, effluents, emptied PPPs containers, etc.)	....