

## Basic spraying programmes

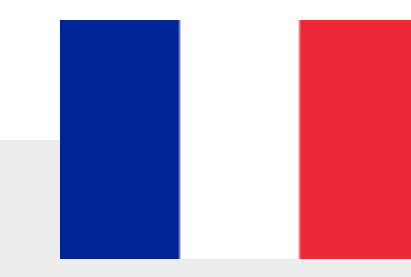


	Product name	Rate	Active ingredient	Growth stage	Reason of application	
1	01/01/2024	Kerb	4,25l/ha			
Or	01/01/2024	Roundup Powermax	1,5l/ha	Dormant	Weeds	
2	01/03/2024	Artist	2,5kg/ha	Flufenacet/Metribuzin	Dormant	Weeds
3	01/03/2024	Stomp Aqua	2,9l/ha	Pendimethalin	Dormant	Weeds
4	01/04/2024	Shield Pro	0,375l/ha	Clopyralid	Bud Break	Thistle
5	21/04/2024	Shield Pro	0,375l/ha	Clopyralid	First flower	Thistle
6	30/05/2024	Roundup Powermax	1kg/ha	Glyphosate	Fruit Set	Weeds, directed application



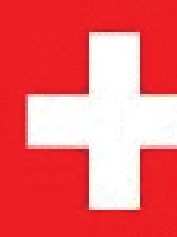
	Product name	Rate	if other growth stage
1	Glyphosate 360	3,5l/ha	Dormant
2	Tribeuron- Methyl	40grams	Dormant
3	Glufosinate	5l/ha	Early Spring
4	Terbutylazine	4l/ha	Early Spring

**Other growers also use Chateau, Simazine, Light rates of Versatil and grass specific killers.**



Date of application	Name of product	Rate	Active ingredient	Growth Stage	Reason of application
1 31/01/2023	Roundup Evolution	0,6l/ha	Glyphosate	Stade A	Weed Control
2 15/03/2023	Roundup Evolution	0,6l/ha	Glyphosate	Stade A-B1	Weed Control
3 15/03/2023	Cent 7	1,6l/ha	Isoxaben	Stade A-B1	Weed Control
4 20/03/2023	Novicure	1,1l/ha	Cuivre du sulfate tribasique	Stade B1-B2	Anthracoze (fungal dease)
5 20/03/2023	Ovipron Extra	20l/ha	Huile minerale paraffinique	Stade B1-B2	Insects
6 30/03/2023	Karaté Zeon	0,075l/ha	Lambda-cyhalothrine	Stade C1-C3	Aphid
7 15/04/2023	Delan WG	0,7kg/ha	Dithianon	Stade D-E1	Anthracoze
8 18/04/2023	Karaté Zeon	0,15l/ha	Lambda-cyhalothrine	Stade D-E1	Insects
9 25/04/2023	Luna Sensation	0,8l/ha	Fluopyram + Trifloxystrobine	Bud break	Leaf's diseases (Powdery mildew, botrytis)
10 08/05/2023	Signum	1kg/ha	Pyraclostrobin + Boscalid	Stade 11-12	Anthracoze, botrytis
11 11/05/2023	Roundup Evolution	0,6l/ha	Glyphosate	Stade 11-12	Weed control
12 15/05/2023	Delan WG	0,7kg/ha	Glyphosate	Stade 11-12	Anthracoze
13 20/05/2023	Movento	0,75l/ha	Spirotetramat	Stade I2	Mealybugs
14 20/05/2023	Alliage	0,2kg/ha	Krésoxim méthyl	Stade I2	Powdery mildew
15 10/06/2023	Signum	1kg/ha	Pyraclostrobin + Boscalid	First Color	Anthracoze, botrytis
16 10/08/2023	Novicure	1,1l/ha	Cuivre du sulfate tribasique	Post Harvesint	post-harvest Healing

## Weed management practices

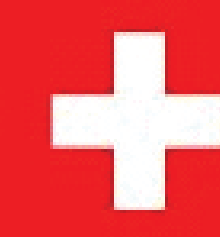


### Case study

#### Information about the farm :

- 17 ha Aronia - 5 ha Blackcurrant
- Organic
- Blackcurrant Variety : Ben Hope (6t/ha), Goofert (3t/ha)
- Row spacing : 3m60-4m
- Irrigation : Drip irrigation (25cm depth)
- Bush shape

Main weed observed : Thistle (Cirsium arvense), Galium.



### Combination of machines : rotary hoe + finger weeder

#### Information about finger weeder:

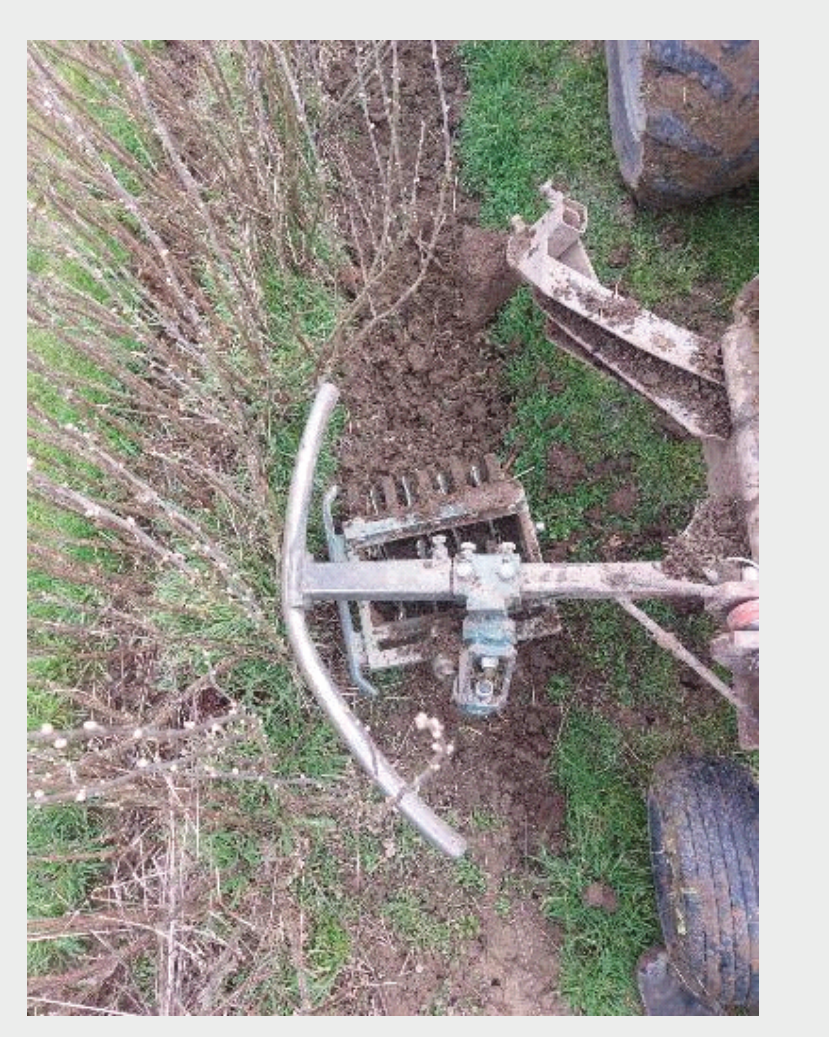
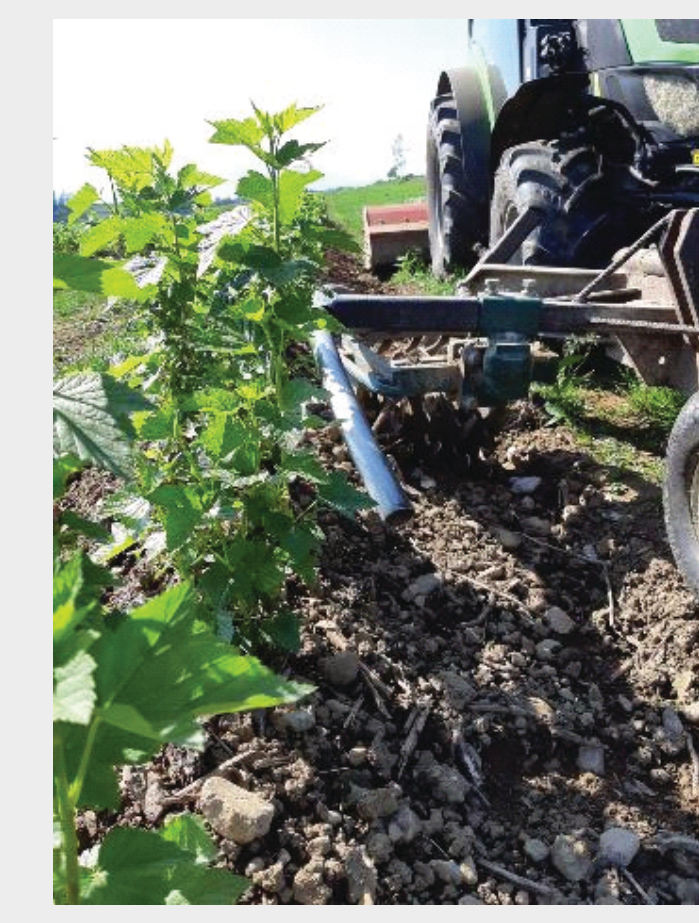
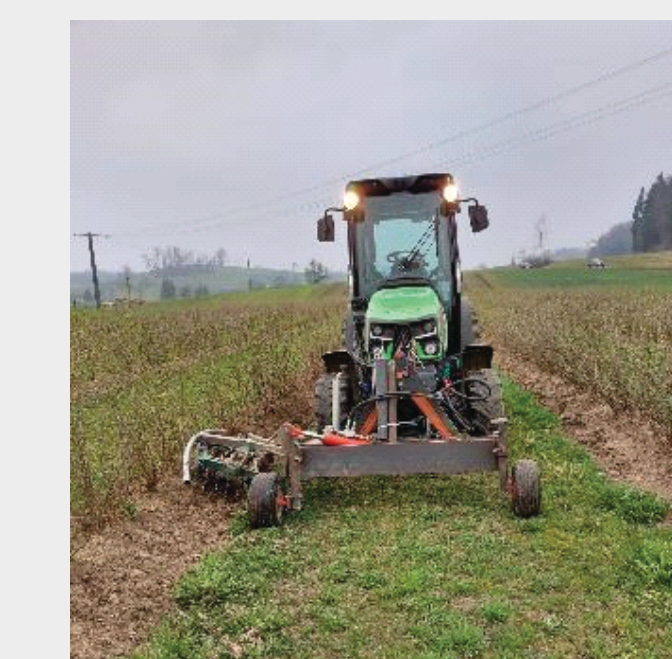
- Cost : ≈ 5200 € + 1000€ maintenance/year
- Works on half row
- Assembly in front of tractor
- Working depth : ≈ 5 - 10 cm
- Speed : 8 km/h to 12 km/h



### Combination of machines : rotary hoe + finger weeder

#### Information about rotary hoe:

- Cost : ≈ 5300€ + 1000€ maintenance/year
- Works on half row
- Assembly front of tractor
- Speed : 6km/H to 12 km/h



### Case Study in Switzerland : mechanical weeding

#### Information about the routine :

- 10 passes/year
- Start from beginning of spring, stop 1 month before harvest
- Additionnal manual weeding needed (2 to 3 passes / year)

#### Total cost of the routine

- 42€ per pass per ha

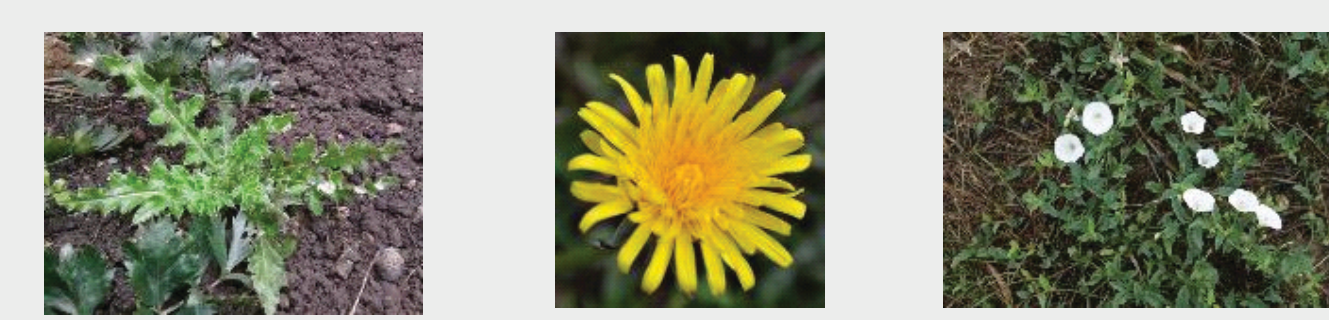
≈ 420€/year/ha all included (tractor + labor, etc.)



### Case study

#### Information about the farm :

- 1,6 ha Organic
- 4 years
- Variety : Ruben
- Blackcurrant : main crop
- Soil type : clayish
- Irrigation : no
- Bush shape
- Main weed observed : Thistle (Cirsium arvense), Bindweed (Convolvulus arvensis), Dandelion (Taraxacum)



### Combination of machines : Disc hoe (Mcms<sup>®</sup>) Rotary Tiller (Selmar Polska<sup>®</sup>) Klaudia (Jagoda<sup>®</sup>)

#### Information about Disc hoe (Mcms<sup>®</sup>):

- Type : disc hoe
- Cost : ≈ 1000 €
- Works on half row
- Assembly back of tractor
- Working width : 40 cm
- Working depth : ≈ 2 cm
- Speed : very slow

→ 2 times/year

#### Information about Rotary tiller (Selmar Polska<sup>®</sup>):

- Type : rotary tiller
- Cost : ≈ 2700 €
- Works on half row
- Assembly back of tractor
- Working width : 60 cm
- Working depth : ≈ 6 cm
- Speed : 15km/h

→ 3 times/year

#### Information about Jagoda<sup>®</sup> Klaudia :

- Type : Finger weeder + vertical disc hoe + blade tiller + brush
- Cost : ≈ 2900 €
- Works on half row
- Assembly back of tractor
- Working depth : 60 cm
- Working depth : ≈ 3 cm
- Speed : 15km/h

→ 3 times/year

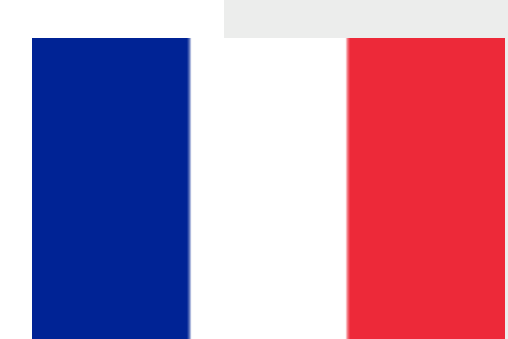
16-20h/ha of complete weeding routine per year

Total cost of the routine ≈ 700€ /year

## Other projects and information



In Finland, basically only glyphosate and a few other products can be used against the grassy weeds. Most producers combine with herbicides and mechanical weeding. Mechanical weed control is usually done with movers and trimmers. Plastic mulching films are hardly used anymore. They are mostly used on small fields only.



In France, electrical weeder "Zasso" (ref. IBA conference 2023) is no longer used by the producer who had bought the machine, mainly because he abandoned organic blackcurrant production and returned to conventional weeding.



In the United Kingdom, the project of implementing living mulch on blackcurrant rows (ref. IBA conference 2023) has been delayed due to difficult establishment conditions. There are no results to report for the moment.