



# Alternatives to contentious inputs in organic market gardening

FEEDBACK FROM A FRENCH MARKET GARDENER:  
**DIDIER FLIPO**



0.5 worker: Didier Flipo has 2 professional activities



0.7 hectares, including 700 m<sup>2</sup> of greenhouses



Direct sales in markets and organic specialty stores



Start of agricultural activity in 2010 (directly in organic farming)  
Diversified market gardening  
Preservation of soils (living soils)  
Autonomous and economical system



Self-production of plants and seeds  
Agroforestry  
Desire to reduce the impact on the environment



Didier Flipo is also an organic market gardening trainer for private individuals. This second activity pushes him to set up experiments in his production system.

## Foreword

### The contentious inputs in organic farming

A European project to find alternatives

Certain permitted inputs in organic farming are controversial because they can pose ethical and environmental problems. They nevertheless continue to be used due to a lack of alternative solutions, whether for technical or economic reasons (examples in market gardening: plastic mulching to manage weeds or peat-based soil for sowing).

The European Organic-PLUS project (2018-2022) aims to research and communicate on alternatives to these inputs. To achieve this, project members are collecting data on a European scale on so-called "O+ innovation" organic farms (farms that use little or no contentious inputs). For more information: [www.organic-plus.net](http://www.organic-plus.net).



ABioDoc (the French documentation centre specialising in organic farming, partner of the Organic-PLUS project) asked four French students in the ABCD pro degree ("Organic Agriculture Consulting and Development" professional degree) to carry out surveys on organic producers. These students met Didier Flipo, an organic market gardener based in central France, which uses alternatives to the use of peat-based potting soil and the use of plastic mulch.

## 1- Organic mulching to manage weeds while reducing the use of plastic

### *Alternatives to plastic*

Since 2016, one of Didier Flipo's goals has been to reduce his use of plastic film. To limit the development of weeds in his crops, he increasingly used organic mulches. These mulches have several significant advantages according to Didier Flipo:

- 1- they increase the soil life because they provide organic matter and permanently cover the soil;
- 2- they make the work environment more aesthetic and more pleasant to work.

" It is much more pleasant to work with organic material than with plastic! " *Didier Flipo*

After having followed training courses provided by the French network “Maraîchage sur Sol Vivant” (market gardening on living soil) and having completed his knowledge by watching videos on the internet, he began by carrying out tests on small areas with mulches based on green waste or hay.

“It's not very technical, but it is better to do training to avoid making mistake.”

*Didier Flipo*

As the results were convincing, each year, he has increased the area on which he used organic mulch: currently, he uses this technique on  $\frac{3}{4}$  of the farm. He still uses a little plastic mulch because he has some left in stock, but he thinks he can do without it altogether.

## Method of use:

Didier Flipo uses organic mulching only for his plantings: plants in pots or in honeycomb planting trays (but not for his seedlings).

For species whose young sprouts have difficulty crossing the straw (e.g. lamb's lettuce, radish, carrots, mesclun/mixed salad, etc.).

### Mulching made from green waste



#### Procurement:

Didier Flipo buys green waste from the nearest recycling centre to his home. These are all types of green waste, often woody (it depends on what was deposited at the recycling centre).

#### Cost:

5 € per ton of green waste shredded and delivered to the farm.

For other species (e.g.: Solanaceae, Cucurbitaceae, cabbage, chard, etc.).

### Mulching made from hay



#### Procurement:

Didier Flipo buys hay from permanent pastures from a farm located 2 km from his home (a conventional farm).

#### Cost:

20 € per bale (350 kg). He uses just over 4 tons of hay per year, or 12 round bales.



### Point of attention: the nitrogen deficiency

Didier Flipo warns of nitrogen deficiency. The first three years, while a balance is achieved, it is very important to add organic matter rich in nitrogen to balance the C / N ratio. For this, he buys chicken droppings which he spreads in the spring.

“ It is important to provide organic matter rich in nitrogen in the spring to avoid nitrogen hunger . “

*Didier Flipo*



Planting of lettuce and parsley in an organic mulch, and seeded chard for self-production of seeds (photo credit: Didier Flipo)



Planting of Alliaceae and Cucurbitaceae in a hay-based mulch (photo credit: Didier Flipo)

However, this change in practice has created some difficulties, in particular in controlling certain **pests**. During the first three years, Didier Flipo observed a great abundance of slugs under the hay. They are attracted to this environment sheltered from the sun. After a few years of mulching, the damage caused by slugs has diminished. Didier explains this decrease by the establishment of predators and by the change in the slug diet following the development of soil microorganisms (in particular fungi, preferred meal of slugs). He also observed a few more voles than with plastic mulch, but the damage is still acceptable.

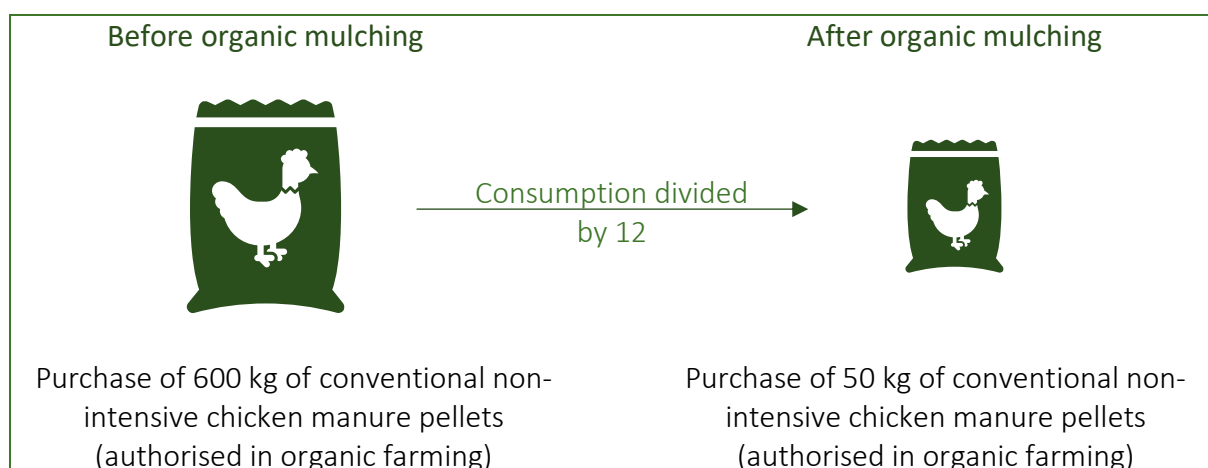
After several years of use, Didier Flipo has made several observations: his plants are healthier (in particular they develop a better root system) and mulching allows him to consume two times less water by limiting evaporation. He is fully satisfied with this technique and does very little manual weeding. Regarding the choice of organic matter, Didier Flipo prefers to use hay-based mulch, because he has observed that his crops and soil life behave better, but green wastes has the advantage of being more economical.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>- Efficient;</li> <li>- Economic;</li> <li>- Promotes the microbial activity of the soil: gradual supply of carbon;</li> <li>- Eco-friendlier than plastic: uses less fossil fuel;</li> <li>- Slight saving of time compared to the installation of the plastic films: the plastic films take longer to set up and it is necessary to spend more time to fertilise the crops;</li> <li>- Better plant health, in particular the development of a better root system;</li> <li>- Water saving: the plants consume 2 times less water than with plastic mulch and 10 times less than with bare ground.</li> </ul>	<ul style="list-style-type: none"> <li>- Some pests are more difficult to manage: slugs, voles;</li> <li>- More physical to put in place than plastic (requires a higher labour input);</li> <li>- Requires more time than plastic when planting: mulch around planting holes needs to be moved before planting;</li> <li>- Requires large volumes of organic matter and adequate storage space;</li> <li>- Currently, no source of organic hay and no security on the origin of green waste.</li> </ul>

## 2- Organic mulching and the manufacture of compost to reduce the purchase of fertilisers

### *Alternative to conventional organic fertilisers*

Since setting up organic mulching, Didier Flipo has drastically reduced his purchases of fertilisers.



As he wants to be as independent as possible, and in particular to no longer depend on the purchase of fertilisers, Didier Flipo has also started to make his own compost. Currently, he uses this compost mainly for seedlings (radishes, carrots, lamb's lettuce, etc.): this technique allows both to fertilise and to reduce the weeds (a kind of mini-mulch) in seedlings.



Sowing carrots in green waste compost, and seeded radish for self-production of seeds (photo credit: Didier Flipo)

### Method of use:

2 - 3  
cm



Green waste compost  
coarsely sifted .



The compost must have sufficiently heated up to destroy weed seeds.

Didier Flipo carried out several tests before finding the right method to make his compost. He remembers two experiences in particular:

- 1) **“Express” compost:** In 2012, he made a first test of compost made from weeds, hay and soil. His goal was to make his compost over a very short period (one month), by watering it and mixing it regularly to activate fermentation. The compost obtained was satisfactory, but its manufacture required a lot of handling and was too time-consuming. Then, Didier Flipo abandoned this method.

2) **Green waste compost:** A few years later, he carried out another test by making a compost of green waste from a recycling centre (the same ones he uses for his organic mulching: 5€/t shredded and delivered). The composting process is long: two years. At first, his compost contained weed seeds. Now he lets the compost degrade for a longer time (without intervening), in order to ensure a certain sanitary quality.



Advantages	Disadvantages
<ul style="list-style-type: none"> <li>- Efficient;</li> <li>- Economic;</li> <li>- Local and renewable resource;</li> <li>- Also helps manage weeds.</li> </ul>	<ul style="list-style-type: none"> <li>- Risk of nitrogen deficiency (C / N ratio);</li> <li>- Long composting process;</li> <li>- The composting process must be controlled, especially the rise in temperature;</li> <li>- Current use of conventional manure and no security on the origin and composition of green waste (heavy metals, etc.).</li> </ul>

## Production and Acknowledgements :

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This brochure is part of a series of three brochures dedicated to alternatives to contentious inputs. You can consult the two brochures on the Organic-PLUS website ([www.organic-plus.net](http://www.organic-plus.net)) or on the ABioDoc website ([www.abiodoc.com/documents-abiodoc/syntheses-rapports/temoignages-agriculteurs-bio-alternatives-aux-intrants-litigieux](http://www.abiodoc.com/documents-abiodoc/syntheses-rapports/temoignages-agriculteurs-bio-alternatives-aux-intrants-litigieux)).

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Organic-PLUS: [www.organic-plus.net](http://www.organic-plus.net).