

Alternatives to contentious inputs in organic livestock farming

FEEDBACK FROM AN ORGANIC FRENCH DAIRY FARMER:
MARC DUMAS



1.2 workers: Marc Dumas
and one employee ½ day
per week



42 hectares
35 dairy cows
Production/cow: 6,200 L



Milk collected by a
cooperative



Start of agricultural activity in 1982
Conversion to organic farming in 2009
Farm located in the mountains
Autonomous and economical system



Member of a group of employers
Autonomous in fodder
Grouped calving and single milking in summer
Willingness to limit his impact on the environment
Search for autonomy

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 breeding: antibiotics, chemical antiparasitics, conventional straw).

The European Organic-PLUS project (2018-2022) aims to research and communicate 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 disputed inputs). For more information: 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 Marc Dumas, an organic dairy farmer based in central-eastern France who is developing alternatives to the use of allopathic treatments.

1- Herbal products to manage gastrointestinal parasitism

Alternatives to chemical pest control products

Like many other dairy farmers, Marc Dumas has to deal with problems related to gastrointestinal parasites (paramphistomes, strongyles: flatworms, nematode-roundworms). At the start of his career, he used to systematically treat parasites with chemicals. However, since 2003, he has decided to do without chemical intervention. To achieve this, he undertook several training sessions and interacted with various people on alternative practices. Since then, he has managed this problem using preventive practices based on herbal medicine and French aromatherapy.

" In 2003, while I was still in conventional agriculture, I wanted to stop chemical and systematic pest control treatments to be more independent and to better manage the health of my herd ."

Marc Dumas

To prevent gastrointestinal parasites (paramphistomes, strongyles) infestations, Marc Dumas has implemented two practices:

- 1) Grazing management: heifers (more sensitive) do not graze on plots where adults have already passed.
- 2) The provision of licking blocks in pastures: these blocks are rich in plant extracts (phytotherapy) and help cattle to defend themselves against parasites. Marc Dumas uses blocks with a slightly different composition for cows and heifers. He places these blocks in self-service stations as soon as the animals come out to the pastures.

Composition of milk cow licking blocks:

Calcium, clay, molasses (from organic farming), garlic, mugwort and tansy.

Composition of the food supplement:

Vegetable oils (sunflower, olive and hazelnut) and essential oils (composition is not disclosed).

If he observes an anomaly in one of his cows or heifers (weight loss, reduced production), Marc Dumas performs a coprological analysis. If the animal is indeed infected, he gives it a herbal food supplement (Soluphyt "PAE" ®) for three days. This commercial product was developed to help fight against ruminant gastrointestinal and pulmonary parasites in organic farming.

With this method, Marc Dumas obtains good results and no longer has any particular problems linked to gastrointestinal parasites.

Use of licking blocks and a food supplement	
Advantages	Disadvantages
<ul style="list-style-type: none"> - Quick to use; - Good efficiency; - Economical compared to systematic allopathic treatment; - Accessible to all (does not necessarily require training). 	<ul style="list-style-type: none"> - Use of commercial products (for Soluphyt "PAE" ®): it saves time but it is more expensive than a homemade mixture of essential oils.

Management of gastrointestinal parasitism set up by Marc Dumas				
Measures	Preventive measures		Curative measures	
	Pasture	Phytotherapy	Analysis	French Aromatherapy*
Description	Heifers don't go to paddocks grazed by adults	Licking blocks rich in plant extracts provided as soon as cattle are put out into the pasture	A faecal analysis is carried out if an abnormality is observed in order to identify the parasite, its level of infestation, and to trigger a curative treatment if necessary	Administration of a dietary supplement based on vegetable oils and essential oils, when the results of an analysis indicate that an animal is infected
Price	-	4.2 €/cow/year: 30 € the block of 10 kg (one block is needed for 7 dairy cows)	Not communicated	3.7 €/cow/cure (3-day cure) 3 x 15 ml: 80 € per litre oil

* French Aromatherapy (*Aromathérapie*): This includes ingestion of essential oils. Aromatherapy in a narrower 'English' sense of the word means oils are only inhaled or put in a carrier and rubbed/massaged into the animal, rather than ingested.

2- Blends of essential oils for treatment without antibiotics

Alternatives to antibiotics

In 2003, Marc Dumas not only reviewed his way of managing the internal parasitism of his cows, he also completely changed his way of understanding and managing the health of his herd. In particular he learned about aromatherapy and the use of essential oils. To do this, he followed 12 days of training, spread over three years. During this training, he acquired knowledge on essential oils, but also on a global approach to the health of his herd (the training program is detailed on the next page).

The main health problems he faces are:

1. Foot rot ;
2. mastitis (benign);
3. pneumonia in young cattle (Respiratory Syncytial Virus).

Since completing his training, Marc Dumas has controlled these different problems using mixtures of essential oils and adapting some of his breeding practices.

Training program followed by Marc Dumas

(12 days over 3 years):

- Legislation: essential oils authorised, waiting times, etc.
- The therapeutic actions of the main families and molecules, dosages and administration of treatments
- In-depth study of the most commonly used essential oils in animal husbandry (on common pathologies)
- Diagnosis of symptoms and administration of appropriate treatment; prevention of mastitis problems through a global herd management approach
- Herd analysis methodology: housing, feeding, production criteria and animal health
- Animal observation: diagnosing pathologies, identifying their causes, their frequency of occurrence
- Corrective actions: find the essential oils used to treat sick animals and know how to administer them. If necessary, modify the behaviour of the herd

To make his mixtures according to the symptoms exhibited by the animal, Marc Dumas draws inspiration from a French book written by Francine Baudry, Pascal Debauche and Dominique Baudoux: Practical Aromatherapy Workbooks according to the French School (*Les cahiers pratiques d'aromathérapie selon l'école française- Volume 3, Art vétérinaire : prévention et soin des pathologies affectant l'espèce bovine (2014), éditions AMYRIS, collection Aromathérapie professionnelle*).

He also uses technical sheets written by French veterinarians who have specialised in aromatherapy and phytotherapy.

For example, to treat foot rot, he uses a mixture based on:

- tea tree ;
- cinnamon;
- oregano;
- clove;
- lemon eucalyptus.



Photo credit: Pixabay

To administer this mixture to an animal, precise amounts of essential oils are mixed in a base oil (example: sunflower oil) or in a fatty substance (examples: cream, ointment).

" I recommend having at least 12 basic essential oils in your pharmacy: cinnamon, chamomile, rosemary, lemon, lemon eucalyptus, geranium rosat, noble laurel, aspic lavender, thyme, marjoram, peppermint, ravintsara, tea tree." *Marc Dumas*

" When essential oil treatments did not work, antibiotics and other allopathic treatments would not have been more successful ." *Marc Dumas*

Very quickly, aromatherapy was effective. It has enabled Marc Dumas to significantly reduce his veterinary expenses: currently they only amount to 9 €/1000 L. However, these calculations should be put into perspective because essential oils are recorded as a food cost (food supplement), like mineral supplements or vitamins. It is therefore difficult to estimate the real cost of these oils because the bottles can last a long time. Another positive point, the training allowed Marc Dumas to gain autonomy.

Advantages	Disadvantages
<ul style="list-style-type: none"> - Effective on benign pathologies; - Autonomy for animal care; - Gentler for the animal. 	<ul style="list-style-type: none"> - Need to train; - For severe cases, Marc Dumas is not sure that the treatment given is effective; - Legislative developments need to be considered

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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) or on the ABioDoc website (<http://www.abiodoc.com/documents-abiodoc/syntheses-rapports/temoignages-agriculteurs-bio-alternatives-aux-intrants-litigieux>).

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