

Practice SQ n° 1

CUT&CARRY FERTILIZER

Introduction

Category: Research Innovation (RI)

Practice identity card

#Avoid nitrogen losses, grassclover

#SQ, feed, food, oil, Research Innovation (RI), The Netherlands



Short description

→ Instead of 'brown' manure. The pathway over animals gives products but is accompanied by substantial losses of nitrogen. Using the grassclover directly, these losses are avoided. Technically seen there is no problem: no new machinery is needed or other challenges to be overcome.

Implementation process

Which practice is considered as the standard in this region? Put grassclover in the cow (goat) and get back the manure.

What was the on-farm issue/challenge/opportunity that led to the implementation of the practice? In organic farming the use of manure from conventional animal husbandry is (limited) allowed. This is a situation which is considered as unwanted. If this source of (nitrogen) input is rejected, own nitrogen fixation and reduction of N-losses become essential. Loosing nitrogen by putting grassclover in a cow is

How long did it take to implement the practice and which are the measures needed to monitor: We needed ten years of on-farm research to 1. document the way this fertilizer functions, and 2. to find out the practical consequences. The overall outcome is simple: the nitrogen deliverance can be well predicted, and the practice is applicable for a lot of farmers.

Logistics

- **Logistic aspects to consider:** Yes. In some cases, the C&C fertilizer can be cut and brought to another field at the same day, which requires a good organisation of the work. Often the C&C fertilizer is transported to the farm yard and stored there anaerobically, as if it were cow fodder.
- **Skill/education level required:** rather low

Agronomical traits

- **Can the practice be applied to a multitude of cultivation techniques?** This practice can be applied in all situations where grassclover is part of the rotation.
- **Targeted crop categories:** feed, food, oil
- **Soil types suitable for the practice:** sandy, clay, loamy, chalky, silty
- **Expected effect on crop yield:** increase
- **Expected effect on crop yield variation:** decrease
- **Expected effect on crop quality:** decrease
- **Expected effect on crop quality variation:** decrease
- **Which costs may increase due to the practice?** transportation, storage
- **Which costs may decrease due to the practice?** fertilizers
- **Expected long-term/indirect economic benefits of the practice:** For the moment the practice is economically not attractive. The price of organic manure is competitive. As soon as the use of manure out of conventional husbandry is forbidden, the price of organic manure will rise dramatically and the C&C fertilizer practice will be economically attractive.
- **Expected effect on the leaching of nutrients:** The C&C fertilizer is partly a crop fertilizer and partly a fertilizer. The risk of increased leaching of nitrogen is relevant, but depends on the complete cultivation system, especially crop choice, crop sequence and green manure.
- **Specific materials applicated through the practice:** agricultural residues

Administrative context

- **Does the practice qualify for subsidies?** No
- **Status of the legal framework that regulates the practice:** there is hardly any
- **Are there any policy barriers complicating the practice's application?** Yes: the lack of interest to reduce the allowed amount of manure originating from conventional farming
- **Does the practice involve the use of hazardous substances?** No
- **Is the practice supported by Eco-schemes?** Probably not, because it is new, and the beneficial aspects are not yet known at the political level.
- **Are there any gaseous emissions to be considered upon application of the practice?** yes: nitrous oxide
- **Greenhouse gas (GHG) reduction potential of the practice:** substantial
- **Expected effects from the practice on the time occupation of the farmer?** moderate increase

- **May the practice contribute to a better public image of agriculture?** Yes, as long as you accept a shift from animal production to arable production.
- **May the practice improve the farmer's self-image?** Yes, as long as you strive to reduction of environmental impact and reduction of animal production.
- **Other relevant information:** The use of grassclover as green manure instead of cow feed is for a lot of people a problematic concept.

Contact

Name of the FIN (Fertilization Innovation Network) partner submitting the information: ZLTO
Contact information of the FIN partner: Peter.paree@zltto.nl
Eu member state: The Netherlands

Find out more

Source of information Geert-Jan van der Burgt, givanderburgt@gmail.com ; research farm www.spna.nl ; several reports to be found at www.louisbolk.nl

Additional info/links:

<https://www.louisbolk.nl/sites/default/files/publication/pdf/evaluation-planty-organic-2012-2020.pdf>

<https://www.spna.nl/ons-onderzoek/planty-organic-stikstof-telen/>