Practice SQ n° 4

MANURE MEDIATION INCLUDING DIGESTED SEWAGE SLUDGE

Introduction

Category: Good Practice (GP)

Practice identity card

#manure mediation, organic carbon

#SQ, food, feed, fibre, oil, Good Practice (GP), Sweden

Short description

- Manure mediation represents a strategy whereby farms with an abundance of organic manure can sell this resource to other farms that has a deficit of organic carbon in their system. This approach facilitates the transfer of nutrients from an area with a higher potential for nutrient leaching to an area with a demand for both nutrients and organic carbon and thereby enhancing soil quality.
- The idea is similar for mediation of digested sewage sludge, whereby this as well is transported to regions exhibiting a deficiency in such materials.
- This practice is conducted on a farm scale, with the farmer themselves determining the location of the greatest need for organic manure.
- The mediation and trade of the manure may be managed by advisory companies or by the farmers themselves. Through the advisory network, the farmers can receive assistance in testing the nutrient content of the manure and in determining its market value. The farmers contact the advisory company with information about how much and what kind of manure they have for sale. The prize of the manure is based on the nutrient content and distance of shipping distance.

➔ However, the supply of digested sludge is handled by specialised companies due to the regulations, analysis and contracts with the treatment plants. However, this is free of charge for farmers.

➔ The mediation of manure depends on the distance from the seller to the buyer, with the value of the manure decreasing with distance. Distance is not a problem for digested sewage sludge.

Implementation process

Which practice is considered as the standard in this region? The standard practice for farms with an abundance of organic manure is to utilise it on their own farms. This leads to a risk of nitrogen and phosphorus leakage. Conversely, farms with no own production of organic manure may experience difficulties in providing organic carbon to the soil and has a hard time increase mulch.

What was the on-farm issue/challenge/opportunity that led to the implementation of the practice? In Sweden, there are regions where dairy and beef production is the primary agricultural activity, and there are also regions where cereal production is the dominant agricultural practice. The presence of cattle in these areas results in a considerable supply of organic manure, which can lead to the leakage of nitrogen and phosphorus. However, these areas also exhibit a favourable supply of organic carbon and present an opportunity to enhance soil quality. Conversely, farms engaged in cereal production do not experience the same degree of nitrogen and phosphorus leakage. However, they face a more significant challenge in increasing mulch and enhancing soil quality.
Given the circumstances surrounding the increase in nitrogen prices, organic manure has become a more prominent source of nitrogen for cereal producers. This is due to a combination of factors, including the desire to increase mulch and improve soil quality.

How long did it take to implement the practice and which are the measures needed to monitor: The strategy has been in place for some time. However, the subsequent rapid increase in nitrogen prices has had a positive effect on the valuation of organic manure.

Logistics

- **Logistic aspects to consider:** Yes, loading (often with a wheel loader), transportation (truck), unloading (wheel loader), spreader.
- **Skill/education level required:** rather low

Agronomical traits

- **Can the practice be applied to a multitude of cultivation techniques?** This can be used where organic manure can be used.
- **Targeted crop categories:** food, feed, fibre, oil
- **Soil types suitable for the practice:** peaty, sandy, clay, loamy, chalky, silty
- **Expected effect on crop yield**: increase
- **Expected effect on crop yield variation**: similar
- **Expected effect on crop quality:** similar
- **Expected effect on crop quality variation:** similar
- **Which costs may increase due to the practice?** equipment, fuel, transportation
- **Which costs may decrease due to the practice?** fertilizers
- **Expected long-term/indirect economic benefits of the practice:** Reduced water use, more biodiversity

- **Expected effect on the leaching of nutrients:** Less leaching for both nitrogen, phosphorus and potassium if the manure is spread correctly.
- **Specific materials applicated through the practice:** digestate, animal manure, industrial waste, agricultural residues, municipal sludge, meat/bone meal.

Administrative context

- **Does the practice qualify for subsidies?** No
- **Status of the legal framework that regulates the practice:** well-developed
- **Are there any policy barriers complicating the practice's application?** Yes, there are regulations of when and how much of the manure a farmer may spread. It is often the phosphorus content that regulates the amount.
  The policy barriers for digested sludge are more regulated. Digested sludge must be tested for heavy metals, salmonella and nutrient content. Again, the amount that can be spread depends on the phosphorus content.
- **Does the practice involve the use of hazardous substances?** No
- **Is the practice compliant with EU organic farming practices?** Yes and no.
  - Manure Yes.
  - Digested sewage sludge No
- **Is the practice supported by Eco-schemes?** No
- **Are there any gaseous emissions to be considered upon application of the practice?** No
- **Greenhouse gas (GHG) reduction potential of the practice:** little or none
- **All features of the practice than may hinder its social acceptance:** odor, logistics
- **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?** Perhaps the positive effects of organic manure are not widely known. People often react to the smell.
- People often have a negative opinion of digested sludge because they think it contains heavy metals and hormones.
- **May the practice improve the farmer's self-image?** Yes, this is a win-win situation, both for the loss of nutrients and the increased soil quality.

Contact

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Find out more

Source of information Manure mediation derived from farmer - to - farmer but some of the Hushållningssällskapen that could classifies as medium-sized companies expanded the activity and became a impartial third party
The company that developed the current procedure for the system of mediate digested sewage sludge is Ragn-Sells
The mediation of manure has from the beginning started at farm level where neighbours bought manure from each other. Today, some of Hushållningssällskapets companies do the mediating to give the farmers a helping hand with testing the nutrients, assessing the market value etc.