

Description

Fertilisation optimisation



Data sheet no. 1

ACTION B5. OPTIMISATION OF FIELD APPLICATION OF SLURRY

1. Analysis of the current situation

Generally speaking, mineral fertilisation is more efficient than fertilisation by organic fertilisers. However, the valuable nutritional and amendment content provided by livestock waste, the high availability of these products in certain areas and their low cost make organic fertilisers an excellent product for use in agriculture. Suitably combining the virtues of both types of fertiliser (organic and mineral) will enable optimisation of farm viability from the technical, economic and environmental viewpoints. However, if the slurry is to be applied with maximum possible efficiency, it is necessary to stop using the traditional splash plate-based systems and start thinking about other types of applicator that ensure maximum benefit is obtained from the nutrients.

Another of the shortcomings detected with respect to fertilisation is the lack of internal control in the management of slurry and manure for agricultural use on large farms. As a general rule, large farm operators that manage large areas of farm land have difficulty in knowing how much, where from or when the fertiliser is applied. To address this problem, an increasing number of tools are available on the market that facilitate processing of the data generated by farm operators.

In this action, the technology that is currently available to facilitate these routine aspects of livestock waste management will be communicated both to the study area and to other areas.



2. Objectives

This action seeks to improve agricultural use of livestock waste :

- By increasing the use of innovative slurry application machinery that includes the system consisting of trailing hoses, conductivity meter and/or flowmeter.
- By optimising agricultural use of livestock waste on a farm through the use of software tools.

3. Application machinery: trailing hoses, conductivity meter and flowmeter

Even though innovative application machinery is already available on the market, which enables correct slurry dosage, improved distribution, significantly reduced losses through volatilisation and instant knowledge of the fertilising value, use of this type of machinery is still fairly rare. Accordingly, the aim of this action is to implement use in the study area of slurry application machines consisting of trailing hoses, equipped with a conductivity meter to instantly ascertain the slurry's value and a flowmeter to regulate flow during application.



4. Software-based management tool: GEMA

At the same time, in order to provide a solution for another of the problems that farms encounter in the management of livestock waste, the GEMA software will be implemented. This software was developed by the public sector enterprise SARGA through the LIFE ES-WAMAR project on a farm that handles slurry from 15,000 pigs on 600 ha of land.

GEMA is a management tool that has already been trialled by a number of organisations in Aragon for efficient management and traceability of the slurry from livestock farms. One of the priority goals pursued with the use of this software is to optimise application distances between the various farms and the receiving plots. Use of this tool on farms or associations that manage a large number of plots will provide significant savings in slurry transport and distribution costs.

