



Stakeholder perceptions of manure treatment technologies in Denmark, Italy, the Netherlands and Spain

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Various manure treatment technologies have been developed to increase the utilization and value of manure and to reduce environmental impacts. However, treatment technology adoption is still limited and geographically differentiated in Europe. A survey study was conducted to investigate perceptions of stakeholder groups on factors that influence the implementation of manure treatment technologies in Denmark, Italy, the Netherlands, and Spain. Perspectives on the future adoption of treatment technologies were also explored.

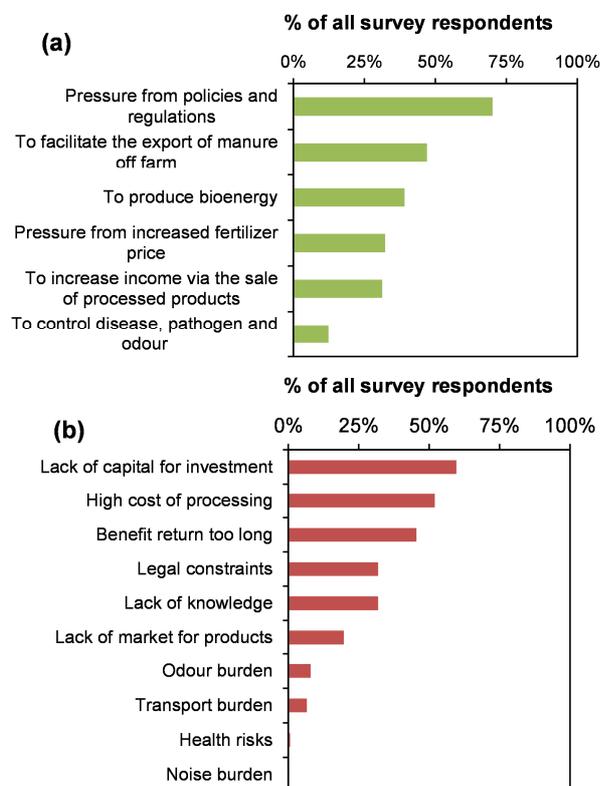


Figure 1. Response to the questions: “what are (a) the top three drivers, and (b) the top three barriers for the implementation of manure treatment. (expressed as % of respondents from all survey countries).

Stakeholders indicate that governmental policies and regulations are the most important factor for adoption of treatment technologies (Fig. 1a). Priority rank of ‘to control disease, pathogen and odour’ is low in the list (Fig. 1a). The most important barriers for adoption were mainly related to economic factors: lack of investment capital, high processing cost and a long payback period (Fig. 1b).

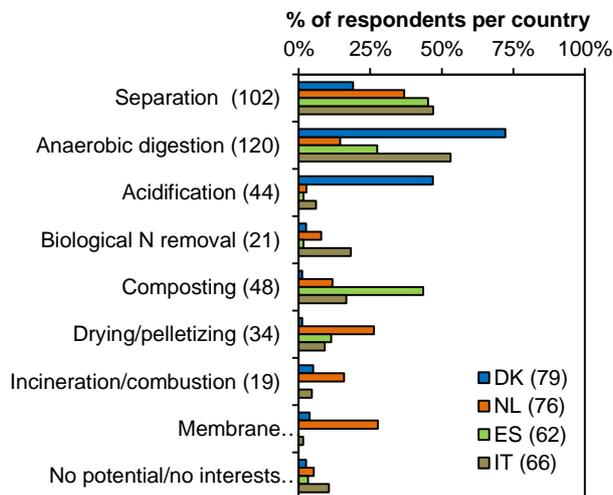


Figure 2. Response to the question (multiple answers): “which techniques have the most potential being applied in your country during the next 10 years?” The number of respondents is indicated for per country or per technology.

Large differences between countries were observed with respect to respondents’ perceptions on technologies with most potential (Fig. 2). These differences were partly related to national policy, main bottlenecks and entrepreneurship. In addition, stakeholders identified that farm size, animal category and treatment plant scale were important influencing factors for adoption. Separation, composting and acidification were considered applicable at the farm scale, while anaerobic digestion, drying and reverse osmosis were considered most applicable in farmers’ cooperatives and industrial scales. Our results imply that manure treatment may remain a regional and on average marginal activity, unless long-term policy incentives are implemented.

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