Acceptance sub-component report

1. Executive summary and main conclusions

The debate on sludge recycling and disposal has recently been the target of growing interest. This is due to the fact that some concern was expressed about the potential risks of the agricultural use of sludge for health and the environment as early as the beginning of the 1990s. Therefore, most of the debate on sludge has focused on this route (past and present debate on disposal routes is not focused on sludge but relates to waste in general).

The debate on the use of sludge in agriculture originated mainly in Northern Europe at the beginning of the 1990s, before gaining in intensity from 1995 onwards. Analysing the context of this period is crucial to understanding the various stakeholders’ attitudes, motivations and constraints concerning the use of sludge. In particular, the recent health “scare” related to GMOs (Genetically Modified Organisms), dioxins, and BSE (Bovine Spongiform Encephalopathy, that is, "mad cow disease") have cast doubts on the safety of the food products on the markets and on the ability of existing regulations and controls to minimise human exposure to potential risks.

The concern expressed about food safety is also related to growing pressure on the agricultural sector, which in certain countries is considered by consumer associations or nature protection associations as being too focused on intensive production and not sufficiently concerned about the impact of its activities on health and on the environment.

The above holds true for most European countries, however, certain countries are under considerable pressure from both sewage sludge, i.e. a high rate of production per inhabitant, and from other fertilising materials, in terms of nitrogen and phosphate content. This is one reason why the debate has not been the same in all countries and has been most heated in the Netherlands, Flanders and Scandinavian countries.

Analysis by country

Past and current events show that it is possible to divide countries up into the following groups:

- In the Netherlands and Flanders, the debate on the use of sludge in agriculture is over, as the regulatory requirements have prevented almost all use of sewage sludge in agriculture since 1991 in the Netherlands and 1999 in Flanders.

- In countries such as Denmark and the United Kingdom, the debate is now mostly over. In Denmark, new regulations on the use of sludge in agriculture (Statutory Order no. 49 of January 20, 2000 on the Application of Waste Products for Agricultural Purposes) have played a large part in ending the debate, as they are considered sufficiently strict to reduce risks to an acceptable level. In the United Kingdom, the debate on sludge recycling was heated until an agreement was reached in September 1998 between Water UK, representing the 14 UK water and sewage operators, and the British Retail Consortium (BRC), representing the major retailers. In addition, farmers’ associations support the agricultural use of sludge, both for economic and for agronomic reasons.

- The cases of Germany and Sweden are special. In Sweden, a voluntary agreement was signed in 1994 between the Swedish Environmental Protection Agency (SEPA), the Swedish Federation of Farmers (LRF) and the Swedish Water and Waste Water Association (VAV) concerning quality assurances relating to the use of sludge in agriculture. However, in October 1999 the LRF recommended that their members stop using sludge because of concerns about the quality of sludge. In Germany, opinion has recently swung in favour of agricultural land spreading, mainly because this practice is considered economically viable and it is considered that the potential risks are sufficiently reduced by the existing legislation. However, political
developments in 2001 have considerably heated the debate, which is quite high at present as some Länder support an increase of regulatory constraints on sludge landspreading.

- In Austria, France and Walloon, a national (or regional) agreement is currently under negotiation between the different parties, and hence the debate is heated. The situation is particularly tense in France where the farmers’ unions supported, until recently, the development of the agricultural recycling of sewage sludge, on the condition that additional quality controls and an insurance fund system were set up. The situation has now changed, as farmers’ unions (the FNSEA and CDUA) have asked for a ban on the use of sewage sludge, officially because the current methods used are not considered to be sufficient to address the risks related to the agricultural recycling of sludge.

- In Finland and Luxembourg, the farming community is generally hostile towards the use of sludge for land spreading, mainly because of the pressure to use animal manure for land spreading. For example, the Finnish Union of Agricultural Producers asked for a ban on the use of sewage sludge for land spreading in 1990, and have renewed their stand against the use of sludge in agriculture in 2001.

- In Ireland and Portugal, farmers support, in some cases, the agricultural use of sludge, both for economic and for agronomic reasons (mainly in terms of organic matter and phosphorus content), although it is difficult to obtain information on this matter. In both countries, the use of sludge seems to be too recent an issue to generate much public debate.

- In Spain, Italy and Greece, the debate remains limited, as far as can be judged from the available information.

This summary of the debate mostly shows that the debate is more "advanced" in Northern Europe, but remains limited in Southern Europe. In addition, it is important to mention that the debate is currently heated in certain countries (Austria, Walloon, France, Germany and Sweden).

A comparison with the national legal requirements also demonstrates that "tight" legal constraints (such as very low limit values for pollutants in sludge) do not necessarily imply a greater acceptance of the use of sludge in agriculture. The Swedish example demonstrates this best.

Finally, a major trend in the current debate on the use of sludge is clearly the increasing number of agreements regulating the use of sludge. However, whereas voluntary agreements have proven to be successful in the UK, they did not prevent the current crisis in Sweden. In the City of Toulouse (France), our enquiry shows that the national agreement will possibly not allay opponents' fears related to sanitary risks or appease all of the local opposition: the debate largely rests on political and sociological grounds.

Analysis by stakeholder

Identifying the main positions, attitudes and constraints on the use of sludge by type of stakeholder is difficult mainly because of the various possible attitudes within one category (see case studies in chapter 5.9), and because of the possible differences from one country to another. However, on the basis of the information collected in the course of this study, it is possible to give the following summary of the main stakeholders' positions (more details on the various possible attitudes within one category of stakeholder are set out in the body of the report):

- For farmers, the main motivation for the use of sludge in agriculture is the supply of organic fertiliser at a low cost. Their main constraints come from their customers, either food industries or retailers, who have specific quality requirements. In a growing number of cases, these quality requirements include restrictions on, and sometimes the prohibition of, the use of sludge in agriculture. In this context, the main consequences for farmers associated with the use of sludge in agriculture could be a reduction in their market share and a drop in profits, as well as additional liability costs in the event of an accident. In this context, farmers require (in countries
where the debate is heated) that a **guarantee system** be set up, which would cover them against both possible risks, in order to continue using sludge.

- **Landowners** are generally hostile to the agricultural use of sludge. Their attitude is **based on two major concerns: liability and land value**. Landowners do not want to be held liable in the event of an accident (harm to humans, animals and ecosystems) caused by the use of sludge and wish to prevent any loss in the value of their land. The European Landowners’ Organisation (ELO) adopted an official position concerning sludge recycling in agriculture in January 1999, which provides safeguards for the use of sludge. In particular, the findings of the ELO focus especially on the need to strengthen legislation, the need to "**ensure that suppliers accept liability for any economic loss or damage associated with spreading sludge on their land**", for instance by drawing up a pan-European model contract similar to the model contract developed by the Country Landowner’s Association (CLA) in the UK.

- The main influences on the agrifood industry are **marketing and public health concerns**. The industry's **brand image** is one of its most valuable assets and its primary concern is therefore to protect its image from being tarnished. In this sense, the industry's attitude is mainly influenced by the way in which the general public perceives the potential risks of using sludge in agriculture. As most of the members of this industry are sludge producers as well, professional associations of food industries are, in most cases, officially in favour of maintaining the use of sludge in agriculture if the quality of sludge can be guaranteed. As sludge producers, these companies are obviously seeking **low-cost sludge disposal routes**.

- The main motivation for food retailers is to be able to purchase **agricultural products at a low cost** and to secure their market share by maintaining or improving the **image of the quality and safety** of their products. In this context, as there is still a great deal of scientific debate on the potential risks of the use of sludge in agriculture, land spreading could be perceived as a potential threat to their image. The main concern for food retailers involves the **marketing stakes** regarding product quality and, therefore, the extent to which the use of sludge may have an impact, whether **real or perceived**, on the quality of agricultural products.

- The main motivation for waste-water treatment companies is to **maintain long-term disposal and recycling routes** for the sludge produced at the lowest possible cost. These companies are therefore aware of the **need to maintain agricultural land spreading as a major recycling route** for sewage sludge, mainly for economic reasons. In this context, these companies are willing to improve their performance beyond that required by the regulations in order to protect the existing routes for sewage sludge. They are also aware of the need to improve practices, and also insist on the need to introduce national policies aimed at improving and controlling the quality of waste water entering the sewers.

- The main waste management companies do not exclusively focus their business on sludge recycling. However, the main **economic driver** behind their subsidiaries specialised in organic waste management has led them to increase awareness of the importance of sludge quality control and of improving land spreading processes. In this respect, **service quality assurance** could become standard practice in Europe. In addition, waste management companies are increasingly developing the use of composted sludge, as compost has the advantage of reducing odours and of being a commercially viable product.

- Communities are in most cases seeking to maintain the existing disposal and recycling routes for sewage sludge that are both economically viable and safe in terms of health. In addition, communities are subject to strong pressure from their voters and are therefore concerned about limiting the "water bill". The "NIMBY" factor is also an important element which makes a difference between acceptance in rural and in urban communities.

- In most cases, national authorities have implemented policies supporting the use of sludge in agriculture, as it is considered to be the best economic and environmental option to deal with the increasing quantities of sludge produced. In this context, national authorities are seeking to increase confidence in the quality and safety of products cultivated on sludge fertilised soils.
• Consumer associations and nature protection associations have both played only a minor role in national debates on sludge recycling. Most consumer organisations involved in the debate on the use of sludge in agriculture have been largely preoccupied with food safety. In this respect, some consumer associations are concerned that the use of sludge in agriculture does not offer sufficient guarantees. The limited participation of consumer associations and the general public in the debate on sludge recycling can be explained by the lack of information made available to the public on these issues.

The analysis of the stakeholders’ positions shows that the main areas of consensus on sludge disposal and recycling routes are that the growing quantities of sludge must be treated in the aims of keeping both environmental and economic costs as low as possible. Similarly, improving practices, both with regard to the treatment and the use of sludge, is now considered as essential. In the context of uncertainties concerning the potential impacts on human health and the environment of the various disposal and recycling routes, all stakeholders are calling for additional research, in order to increase confidence in the use of sludge in agriculture.

Reducing constraints and encouraging the recycling of sludge

In order to encourage the recycling of sludge, the following should be taken into account:

• The development of agricultural recycling depends largely on the possibilities to improve the quality of the sludge itself and increase confidence in sludge quality. This implies the prevention of pollution of the waste water at source by reducing the possibilities for heavy metals and organic compounds to enter the waste water sewage system and improving sludge treatment as well as ensuring the monitoring of sludge quality. These technical solutions however require major investment from the water companies or local authorities in charge of treating the waste water. The possibility to certify the treatment processes involved and the quality of sludge, either through independent "sewage sludge audits” or by the certification of sludge production and treatment processes, could help to increase confidence in sludge quality. Similarly, the quality standards of sludge recycling practices also need to be guaranteed, especially for agricultural recycling.

• One of the main issues with regard to sludge recycling in agriculture is the setting up of guarantee funds or insurance systems in order to cover any loss of profits, damages or other costs related to the use of sludge in agriculture. This would partially address the issue of liability, which is a vital concern for farmers and landowners in the debate over the use of sludge. In addition to economic instruments, legal provisions could be introduced to regulate producer liability. However, according to the City of Düsseldorf officials, the guarantee fund was not considered as a decisive argument leading the City to privilege the use of sludge in agriculture, and has even had negative consequences on the economic conditions of this route.

• National regulatory requirements vary greatly from one country to another. In this area, national regulations, based on the same scientific grounds, should be considerably improved by the next Directive on sludge use, in order to provide long-term perspectives for the use of sludge. With regard to increasing confidence in the use of sludge, standardisation initiatives (continuation and completion of CEN TC 308 work on the production and disposal of sewage sludge) have a major role to play.

• The evolution of the debate on sludge disposal and recycling in Europe shows that the relationship between farmers and their customers (food industry and retailers) is crucial for the acceptance of the use of sludge in agriculture. Examples at national level show that an agreement at European level between representatives of food industries, retailers, farmers and sludge producers could enhance mutual confidence and information transfer. In this respect, efforts could be made to improve communication between the major stakeholders, for example by creating “contact points” similar to the national committees on sludge set up in several Member States.
The current state of the debate on sludge recycling and disposal routes clearly shows that the current uncertainties over possible risks for human health and for the environment play a major part in the resistance against expanding various sludge recycling routes. The areas where scientific results are the most expected by the stakeholders contacted in the course of this study are possible effects of organic pollutants and pathogens in sludge. Progress in the social and political acceptance of sludge recycling could therefore be made by promoting research on these specific aspects, publishing the research results and making them widely available. In particular, there should be better dissemination of the results of current national research programmes on the effects of the agricultural recycling of sludge on health.

In addition to the dissemination of research results, an important effort of communication on sludge use should be carried out. In particular, tools such as codes of practice for the recycling of sludge implemented on a voluntary basis should be considered. Communication should especially aim to promote high-quality sludge (with low levels of contaminants), which could be recognised as fertilisers (or as a component of fertiliser products) at European level. The development of labels at European level would enable users to identify high-quality sludge and to distinguish it from other types of sludge or waste, thus improving the image of sewage sludge itself. Therefore, labels on products could be a useful additional tool to labels on quality assurance, for encouraging the use of sludge in agriculture. The possibilities for providing more training opportunities to specific categories of stakeholders (farmers, for example) should also be examined.