



**EFAR's** members have paid close attention to the reading of the third assessment report on the impact of a possible revision of the sludge directive (86/278/EEC).

## **GENERAL REMARKS**

As already exposed several times before, **EFAR** is in favour of a potential revision of the directive on sludge land application in order to reaffirm the relevance of this disposal route while increasing the guarantees given to the different stakeholders.

Therefore options 4 and 5 are not acceptable.

Regarding the options 2 to 4 **EFAR** maintains that any change in the limit values has to be based on a risk assessment. **EFAR** regrets that once again this is not the case and that there is no scientific justification to the different set of values mentioned in the scenarios 2 and 3.

Regarding Option 4, the reasons which could lead to a total ban of sludge land application need to be developed. In addition, this scenario could only be applied with immediate effect (farmers and food industries will effectively refuse immediately the use of a product which would be prohibited in the medium term). It requires that the alternatives solutions have sufficient capacity to accept the whole sludge production which obviously is not currently possible.

**EFAR** also wishes that industrial sludges are being incorporated into the impact assessment which is not the case and which could have a significant impact on the final conclusion of the study.

Generally speaking **EFAR** believes that the different assumptions taken into account into the report are not sufficiently supported and documented particularly regarding the sludge failing rate to the proposed threshold limit values (before and after receiving further treatment).

It is also very difficult to finally figure out what are the sludge quantities disposed through the different outlets and to link these quantities with the financial impacts. Therefore **EFAR** refuses to validate and to comment these figures.

Moreover **EFAR** would have expected that the options 2 and 3 would have been applied in detail to member states with high and low level of sludge landspreading (at least two in EU 15 and two in EU 12) to confirm the theoretical conclusions of these scenarios.

**EFAR** will also pay attention that for the future all the limit values specified for sludge will be applied to any kind of agricultural feedstock like mineral fertilisers, pesticides and animal manure. The impact study has also to take into account this consistency in policy.

## **DETAILED REMARKS ON THE REPORT CONTENT**

### **1 Introduction**

#### **1.1 Overview and options**

##### **Table 3**

Detailed justifications of the sludge threshold values are required.

Half lives of NPE and LAS in soils are of less than 6 months. Inclusion of these compounds into the list of PTE cannot be accepted without explanation.

Regarding heavy metals the most important decreases between the scenario 2 and 3 are for chromium, nickel and zinc. As lead is the element which contributes the most to the risk increase **EFAR** would like to know how the decreasing rates for the different PTE have been determined between the two scenarios.

Regarding pathogens **EFAR** wants to stress the fact that there has never been a major sanitary crisis linked to sludge landspreading. In some countries like France where there is a specific survey cell very few incident have been reported and the conclusion is that the risk is very low. This has been confirmed by a recent epidemiological study carried out by the **SYPREA** (French representative of **EFAR**) on workers directly in charge of spreading operation. Therefore applying very stringent constraints as the one proposed in option 3 is non sense. The use of E coli and C perfringens as treatment indicators needs to be justified (if C perfringens could be used as composting indicator this is surely not the case for the other types of sludge treatments). Finally **EFAR** also believes that pathogens standards have to be defined in term of limit values per quantity of sludge (gram) rather than in percentage of reduction. This is particularly true for industrial sludge like paper or food industries sludges which have to be included in the scope of the directive revision as stated previously.

On the pathogen sensitive issue (more in term of public perception than in term of effective risks) another possibility is to ban at an EU level the landspreading of primary sludge and to leave to member states the choice to set up their own policies. Most of them have already specific disposition in their sludge regulations but unfortunately they are not convergent.

Regarding the soil threshold limits **EFAR** said repeatedly that setting limits on three different classes of pH is totally inapplicable on the ground level. Indeed it is common that soil pH varies from more than one point in the course of an agricultural year. Moreover the set of data proposed are too stringent (even in option 2) and will immediately limit significantly or even practically stop for certain area the use of sludge on land. It is also well known that the major part of the heavy metals soils content is due to natural background level with very low availability rates. **EFAR** would also like to be informed of the justification of the particular limitation proposed for zinc between option 2 and option 3. Such restrictive value makes finally the option 3 equivalent to option 4!

The risk assessment study carried out by **INERIS** has demonstrated on the basis of the average levels of heavy metals in soils subject to sludge landspreading (database of 80,000 data provided by **EFAR's** members) that this activity does not lead to unacceptable risk to human health even using systematically the highest transfer coefficients. For the record the **JRC** study published in 2004 and which conclusion are obviously used to propose limit values per pH classes was registering only circa 6,000 data.

**EFAR** therefore proposes to set only two soil pH classes (less than 6 and over 6). For these two classes the soil threshold limit can be adjusted to the 90th percentile of the soil database for pH<6 which will automatically lower the average content of soil in heavy metal and therefore reduce the corresponding risk.

On this basis the proposed values are as follow (in mg/kg using Aqua Regia extraction):

	Ph<6	Ph>6
Cd	1	1.5
Cr	100	140
Cu	50	100
Hg	0.5	1
Ni	50	70
Pb	70	100
Zn	150	200

Nutrients in soils: **EFAR** does not understand the difference between option 2 information only and option 3 nitrate vulnerable zones.

## 1.2 Impact screening

### Table 5

Impact on food retailers needs to be supported. **EFAR** does not believe that restrictions on sludge landspreading will increase sales of food products.

## 1.3 Overview methodology

### Last § page 11

It is not acceptable to use the data of the **SEDE** and **ANDERSEN** report dated of 2002 and make and up-date using retail price index. Know how and technologies evolutions have to be taken into account.

## 2 Option 1: Do-nothing

### 2.1 Overview of option

#### Table 8

Once again the data presented in this table concern only sewage sludge. **EFAR** maintains that the impact assessment has to integrate the different types of sludge which are currently spread on land.

Data for the Brussels region and for Italy are obviously significantly underestimated.

#### Table 9

Same comment regarding the data for the Brussels region which are underestimated. The Italian sludge production is also expected to significantly increase due to the refurbishment of biological treatment plants to reach new EU standard about waste water treatment.

## 3 Option 2: changing standards

### 3.2.1 Changing limits

It has never been clearly asked to propose limit values during the first consultation. Nevertheless as it seems now suggested **EFAR** would propose to use the ones presented in the **INERIS** risk assessment study which are as follow (in mg/kg DS):

Cd:10  
Cr : 1000  
Cu: 1000  
Hg: 10  
Ni: 300  
Pb : 500  
Zn : 2500

#### Table 12

It is necessary to specify whether the data presented in this table are simple means or is there a weighting based on the DS production per waste water treatment plant. If it is not the case this could improve artificially the sludge average quality.

## Table 13 and 14

**EFAR** would like to understand how the different failing rates have been determined. Is it statistical analysis or expert point of view (if it is who are they?)?

It is obviously a mistake to consider that all the sludge disposed by incineration will be treated in facilities with energy recovery equipments.

Methodology which has to be applied to answer the question 3 has to be presented other wise how could it be possible to validate the data received in return?

The amount of 200 €/t DM is extremely high. Indeed to meet the new quality criteria you will have initially to carry out a network policy to identify the industrial discharges to the sewer. This will generate the main part of the costs. Further actions will then be limited to the control of the pre-treatment effectiveness by a yearly analysis campaign. **EFAR** would appreciate if **EUREAU** could comment this figure.

### 3.2.2 Limits on organics

**EFAR** suggests setting up limits only for PAH with a maximum of 4 mg/kg DS for the sum of Fluoranthene + Benzo (b) fluoranthene and of 2 mg/kg for benzo (a) pyrene which is the most poisonous.

The limits mentioned in the table 15 for France are the specific case of sludge spreading on grassland. For the general case other values are to apply.

**EFAR** is really doubtful with the content of the last § page 20 which could be summarized by “ As there were no common view on the OC issue the author has arbitrarily set the limit values mentioned in table 16” !!!

## Table 17

Once again **EFAR** wonders how the different country classes have been set. For example how is Portugal in the same group as Italy and Ireland and not with Greece, Spain, Luxembourg and UK?

How the 12% failing rate for the EU 12 has been determined?

### 3.2.3 Standards for pathogens

## Table 18

**EFAR** regrets that his previous comments regarding maximum concentration for pathogens have not been taken into account. Once again for France the limits mentioned are only applicable for hygienized sludge and for specific uses.

## Table 19

Figures are at least wrong for France where lot of liquid sludge coming from long term aeration processes is spread on land.

Why as for the heavy metal issue is there no column for sludge receiving further treatment?

### 3.2.4 Provision of information on nutrients

**EFAR** believes that this point which is essential to the credibility of sludge landspreading is not sufficiently developed.

To provide guarantees to different stakeholders it is necessary to supply the information outlined below:

- Sludge analysis:
  - Agronomical value not less than 4 analysis per annum and at least one per 150t DS.
  - Heavy metal not less than 2 analyses per annum and at least one per 300t DS.
  - Organic compounds not less than 2 per annum and at least one per 500t DS.
- Soils analysis on agronomical parameter (every five years) and heavy metal (every ten years) per 20 hectares area.
- Establishment of a spreading forecast submitted to local authorities validation including:
  - Sludge and soil analysis.
  - Identification of the landbank which is going to be spread.
  - Information about the nutrient quantities spread on each plot of land and integration of other types of fertilisers (i.e. animal manure).
- Establishment of a yearly balance report integrating the record of all the data regarding the spreading campaign.

Provisions specified currently in point 3.2.4 are considered as not enough stringent.

### 3.2.5 Other changes

As for pathogens **EFAR** is not in favour of a reduction in volatile solids but proposes to set up a maximum in volatile solids per DS. **EFAR** has currently very few references about the oxygen uptake rate of different types of sludge and therefore cannot validate the proposed figure.

### 3.2.6 Change in limits on heavy metals in soils

As mentioned above this is one of the most sensitive point of the assessment. Too stringent limits could jeopardise the use of sludge on land while providing no added guarantees due to the low availability of heavy metals background concentrations.

In all cases it is necessary to leave the possibility to member states to grant waivers on the basis of specific studies.

### **3.2.7 Setting conditions on application**

The definition of untreated sludge needs to be given. Does this term refer to primary sludge or also to biological sludge with only aerobic treatment?

Considering that untreated sludge is primary sludge and due to the lack of sanitary crisis linked to sludge landspreading **EFAR** believes that the restrictions proposed page 27 are appropriated.

However it is necessary to pay specific attention to sludge landspreading on grassland and forage crops. For these types of crops a compulsory six weeks period between spreading and grazing or harvesting is suitable. This could be limited to three weeks for advanced treated sludge and for sludge direct injection.

### **3.2.8 Changes to sampling and monitoring requirements**

Regarding the sampling frequency please refer to our comments on point 3.2.4. The interest to develop quality assurance scheme should be discuss in a specific paragraph.

It seems relevant to **EFAR** to ask the Member States to establish a code of good practices which could then being audited by a third party. The minimum scope of the COGP should be specified in the directive.

## **3.3 Impacts from option2**

It is absolutely necessary to generate here a recapitulative table mentioning clearly what are the impacts of the different restrictions proposed on the tonnages which are currently spread on land. It is also essential to take into account the cumulative impacts (i.e. sludge compliant with heavy metals limit values but failing for pathogens or OC).

**EFAR** wants also to stress that in comparison with the 33 potential impacts listed in table 4 only four are totally integrated and three partially. Taking into account the uncertainties related to the different assumptions it is evident that the conclusions of the impact assessment should be considered with great caution.

### **3.3.1 Economic impacts**

#### **Table 25**

How can one imagine that it is possible to validate the figures presented in table 25 without a calculation example provided to the reader!

It also seems that where there is no data available the costs are supposed to be nil which is surely not the case.

Having a look in annex 2 table 55 it appears that the same disposal costs are applied for all of the member states and that the figures are in fact a simple update of the 2002 ones! This approach is not acceptable.

### **3.3.2 Environmental impacts**

When mentioning that **EFAR** risk assessment report please note that it is indicated that DEHP does not contribute significantly to the global risk therefore it is not necessary to set up a maximum value for this compound.

#### **Table 26**

Once again it is not possible to validate the content of this table without a calculation example.

### **3.4 Summary of costs and benefits**

**EFAR** does not understand from where the 320 to 380 million € per year comes from. Indeed economic impacts already represent 450 million € per annum. Moreover is there a link between table 27 and table 25 and 26?

#### **4 Option 3: Changes to limit (Significant change)**

**EFAR** refuses to comment this option because the need of such stringent limits is not clearly supported. For simple comment the proposed limit values for zinc (20 mg/kg for  $\text{pH} < 7$ ) in soil will immediately be declassified more than 90% of the existing land banks! The percentages mentioned in table 38 are totally wrong for information the 10<sup>th</sup> percentile for Zn in our soil database is over 40 mg/kg. The same considerations apply for the PTE limits proposed in sludge for copper and zinc. Table 36 as also to be reviewed because at least for France and Germany there is a significant part of the sludge production which is not achieving the proposed standards for pathogens.

#### **5 Option 4: Total ban**

No comment on this option without a clear demonstration of its relevance.

#### **6 Option 5: Repeal of the directive.**

No comment on this option for which **EFAR** is not in favour of (please refer to our general comments).

## **Annex 1**

Please refer to our previous comments regarding the establishment of threshold values for sludge and soils.

## **Annex 2**

### **1 Assessment of economic impacts**

#### **Table 55**

What is the justification of the higher cost of landspreading of solid in comparison with landspreading of semi solid? Does solid mean dried? Please clarify.

As mentioned previously it is not acceptable to use the same costs within the whole EU. Landspreading of liquid sludge has also to be taken into account with the necessity of a initial dewatering operation to have access to disposal outlets like incineration or landfilling.

#### **Table 59**

Please provide the detail of the capital costs.

**EFAR** would like to understand how the liming operating costs can vary from simple to double and finally being comparable with the incineration operating costs mentioned in table 56.

### **2 Assessment of environmental impacts**

#### **Table 62**

As energy recovery seems to have a significant impact on the final balance **EFAR** would like to get the calculation details as sludge even at 25% DS is just self combustible.

## **Annex 3**

Once again it is a copy and paste of values coming from other reports dating from 2002! It is important to consider that the methodology for establishing carbon footprint balances has evolved considerably since then.

The origin of the data and methodology used are insufficiently documented.

**EFAR** is therefore unable to comment the values provided, but informed the Commission that it has launched a study of the comparison of the carbon footprint of the different sludge disposal routes which conclusion will be available by the end of the first quarter of 2010.