

(12) LC-R-6-final-Annex
3.12.2012

EU Food waste strategy Case study

Animal feed use of former foodstuffs/ Legal and sustainability challenges

This note was drafted, with the assistance of FEFAC, by a group of companies from several EU Member States (Germany, The Netherlands, UK, Belgium, Italy and Spain) specialised in the collection and conversion of former foodstuffs into feed for food producing animals.

Summary

The feed sector has become a significant outlet for former foodstuffs, i.e. food which either fails to meet the technical product specifications and cannot be placed on the market as food and drink or is removed from the food chain as “past the sell by-date” or because it is surplus to requirements. A more systematic use of such former foodstuffs in the feed sector should be encouraged, to avoid them ending up as waste. To this end, FEFAC considers that the following steps should be taken:

- Ensuring continuity between the food and feed status of the former foodstuffs, meaning that the material should at all food/feed chain steps remain under the scope of the General Food Law and either food or feed hygiene;
- Operators placing former foodstuffs on the market, whether further processed or not, should be registered as feed business operators in accordance with the Feed Hygiene Regulation (EC) No 1831/2003 and operators processing former foodstuffs (drying, unwrapping) should be subject to approval under the same legislation;
- A tolerance should be set as regards the presence of packaging residues in processed former foodstuffs;
- Official controls of former foodstuffs processors should be carried out by food and feed control services.

In addition, catering waste, including surplus food from international transport, should remain prohibited for feeding to food producing animals to avoid major diseases outbreaks and because they are hardly traceable.

The feed sector is convinced that such steps can provide the proper incentive to further optimize the use of former foodstuffs and thereby improve the sustainability of the food sector and FEFAC is committed to develop, in cooperation with other stakeholders, a code of good practices for the safe use of former foodstuffs in accordance with the above principles and with the General Food law.

EU Food waste strategy

Case study

Animal feed use of former foodstuffs/ Legal and sustainability challenges

1. Background

Improving the efficiency of the feed and food chain is a key objective of the Europe 2020 agenda. Minimising and recycling of food waste is on the top of the EU Commission political working programme. A significant proportion of produced food does not meet the technical product specifications and cannot be placed on the market as food and drink or is removed from the food chain as “past the sell by-date” or surplus products. Using these “former foodstuffs” as feed material is a recognised and useful means of good usage of these products and a way to prevent waste generation, which is the top priority in the waste hierarchy as defined in Directive 2008/98/EC. The purpose of this note is to analyse the present level of usage of former foodstuffs from legal, safety and sustainability points of view and to consider the necessary steps to encourage the prevention of food waste through valorisation of their use in feed for food producing animals.

2. Typology of outputs of the food chain (food materials not destined to human consumption)

2.1. Scope

The purpose of the food chain is to supply food and drinks for human consumption. However, different materials generated at different stages of the food chain are not consumed by humans. These materials are

- a) by-products not normally consumed by humans (e.g. by-products such as oilseed meals); material resulting from a production process, the primary aim of which is not the production of that material meeting conditions laid down in article 5, par. 1 of Directive 2008/98/EC on waste¹ (ex: are oilseed meals, bran, etc.).
- b) foodstuffs which were produced according to food standards but which do not get to the table of the final consumer and whose identity is preserved.
- c) material with unpreserved/unassured identity: material not classified elsewhere, including catering and household waste, destined to recycling outside the feed and food chain or disposal.

Ref a), by-products that are manufactured by feed business operators in accordance with Regulation 183/2005 on Feed Hygiene are not considered in the present note. Ref c) catering and household waste, whether containing animal products or not, which are currently prohibited for use in feed for food producing animals are not considered either in the present note. This note, will focus on sub-paragraph b), so called former foodstuffs, which may be defined as:

“Former foodstuffs” means “foodstuffs, other than catering reflux, which were manufactured with the intention of placing them on the market for human consumption but which are no longer destined for the food market for practical or logistical reasons (e.g. surplus or past use-by date etc.) or due to problems of manufacturing or packaging defects or other defects which do not present any health risk for further use as feed.”

¹ The conditions to be met by a material to qualify as by-products are:

(a) further use of the material is certain;
(b) the substance or object can be used directly without any further processing other than normal industrial practice;
(c) the substance or object is produced as an integral part of a production process; and
(d) further use is lawful, i.e. the substance or object fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts.

2.2. Typology of former foodstuffs

Off-specification food & drink and work in progress: products initially destined for food use but which for technical reasons, are not placed on the market (e.g. biscuits which are the wrong size, packaging error) or the production process of food was interrupted (e.g. raw dough);

Surplus: products that meet the food specifications but miss a market (e.g. Easter eggs unsold by Easter) or may not have been sold before the expiry of the sell-by date (e.g. fruits and vegetables, bread) and whose identity and integrity is preserved.

Former foodstuffs may be packed.

2.3. Volumes of the different types of materials not destined to human consumption and feed use

Former foodstuffs, especially wrapped former foodstuffs, are

- Collected and further processed (e.g. unwrapping, drying) by specialised companies (former foodstuffs processors): the former foodstuffs at stake are mostly bread, biscuits, snacks, chocolate, confectionery products, etc.): according to data collected by FEFAC from former foodstuffs processors from seven EU Member States (UK, Belgium, The Netherlands, Italy, Portugal, Spain and Germany), the volume of former foodstuffs that undergoes a process (e.g. unwrapping) before being placed on the market as feed in these seven countries is estimated around 3 mio. t. Extrapolation to the EU-27 would then give a total volume of processed former foodstuffs around 5 mio. t (as is). Former foodstuffs processors are specialised companies, registered in nearly all EU Member States as feed business operators. The number of such plants is estimated around 100-150 EU-wide, most of these being SMEs.
- Sold without further processing needed (for e.g. non wrapped former foodstuffs) mostly directly to farmers (no data available on the amount).
- Disposed of as waste (no data available on the amount).

The volume of former foodstuffs that might be use for feeding purpose is difficult to estimate but it can be legitimately assumed to be around 8 to 12 mio. t as is (both from food industry and retail), not counting fruits and vegetables removed from the food chain.

3. Legal status of former foodstuffs, operators of the former foodstuffs chain and legal challenges

3.1. Former foodstuffs containing ingredients of animal origin

Former foodstuffs of animal origin or containing products of animal origin are listed in Category 3 of the ABP Regulation (EC) No 1069/2009 under article 10 f) :

The approach followed under Regulation (EC) No 1069/2009 is that those materials falling under its scope are subject to traceability requirements from the moment they enter into its scope and until their final use (as far as feed use is concerned) and are subject to processing by operators subject to approval and applying HACCP requirements. Only category 3 materials are eligible for feeding to food producing animals, subject to mandatory specified process and traceability/labelling rules.

At the present stage, former foodstuffs composed or containing products of animal origin are subject to a prohibition for use in feed for food producing animals in accordance with the TSE Regulation (EC) No 999/2001, unless they contain only milk products, egg products and gelatine from non-ruminant origin.

A large number of former foodstuffs composed or containing milk and egg products and gelatine from non-ruminant origin, sometimes at trace levels. Such former foodstuffs regarded as low risk from a "One Health" perspective may be placed on the market without further ABP specific processing provided they have not been in contact with raw animal products (Annex X, section 10 of Regulation (EU) No 142/2011 as recently amended).

3.2. Other former foodstuffs

When destined to use for feed for food producing animals, other former foodstuffs are in practice placed on the market, stored, transported and, whenever necessary, further processed in accordance with the General Food Law, i.e. they are subject to the same traceability and hygiene requirements as laid down in the Regulations on Food Hygiene (Regulation (EC) No 852/2004), on specific hygiene rules for food of animal origin (Regulation (EC) No 853/2004) or on Feed Hygiene (Regulation (EC) No 183/2005). However, from a legal point of view, there is a grey zone between Food Hygiene and Feed Hygiene, which gives rise to divergences of interpretations at national level on the status of the different operators handling, transporting, placing on the market or processing the former foodstuffs and the relevant requirements and responsibilities, having regard to the Food Hygiene vs. Feed Hygiene legislation.

3.3. Interferences with the Waste legislation

The legal status of former foodstuffs with regards to the EU waste legislation would appear to be unclear. From the point of view of the operators of the former foodstuffs chain, former foodstuffs should be clearly exempted from the waste status provided that they meet the definition of by-products laid down in the EU Waste Directive 2008/98/EC, in particular when the feed use is certain, and that operators of the former foodstuffs chain comply with Food and/or Feed Hygiene requirements. However, in practice, there are recurrent disputes at national level, mostly for packed former foodstuffs, since these have to undergo an unwrapping process before being placed on the market as feed and this processing is carried out by specialised companies.

The consequences of the classification of former foodstuffs as waste are:

- The lack of incentives to food business operators to preserve the integrity and traceability of the former foodstuffs;
- The negative image of waste food being recycled for feed use especially so for those products where there is certainty of use and an unbroken chain of custody which could result in lower usage;
- The potential feed safety concerns due to the potential loss of traceability / identity at the point where the foodstuffs cease to be foodstuffs;
- The uncertainty as regards the legal status of former foodstuffs processors, sometime registered as feed business operators, sometime registered as waste processors, sometime with both registrations, with consequences on the circulation of goods on the internal market;
- The lack of coordination in official controls due to different areas of competence between waste legislation on the one hand and feed and food law on the other hand.

3.4. Compliance with Regulation (EU) No 767/2009 as regards packaging residues

Regulation (EU) No 767/2009 on the placing on the market and use of feed introduces a ban on the use of packaging materials for use in feed (Annex III, chapter 1, par. 7). However, in practice, the total absence of residues of packaging materials in former foodstuffs having undergone an unwrapping process is not technically achievable.

4. Sustainability / LCA perspectives

4.1. Resource efficiency

The global demand growth for foodstuffs, in particular livestock products, will likely continue for the decades to come, as income and populations continue to grow. In addition the necessary resources (land, water, nutrients...) to meet this demand will remain limited. For the EU feed industry, 2 parallel pathways should therefore be followed:

- Reduce resource consumption by improving the feed conversion rate
- Reduce competition for resources by moving towards feed specific resources

The ability of the feed industry to add value to by-products and former foodstuffs is an interesting option for the second item. Provided that safety rules are applied, the nutritional knowledge provided by the feed industry gives the opportunity to make the best use of these resources and by doing so to reduce the pressure on resources that can be directly used for human consumption. This is a way to optimize resources within the food chain and should be considered as a priority to meet the EU 2020 Resource Efficiency ambitions.

4.2. LCA methodology

In a Life Cycle Analysis perspective, waste is defined as a substance or an object which the holder intends or is required to dispose of (ISO 14044:2006). The draft ENVIFOOD Protocol developed by the EU Food SCP Roundtable focuses rather on post-consumer waste and does currently not provide any specific criteria to determine what is a waste and what is not for the pre-consumer phase. To carry out a LCA of feed, a proper method should be defined to assess the impact of by-products and former foodstuffs which are used in feed (multifunctionality issue to solve). According to the ILCD Handbook², a distinction should be made on the basis of the market value of the material.

- **Market value of feed ingredient is above zero**

If the market value of the feed material is above zero, in LCA perspective it is a co-product and the multifunctionality is to be solved by a “classic” allocation procedure using

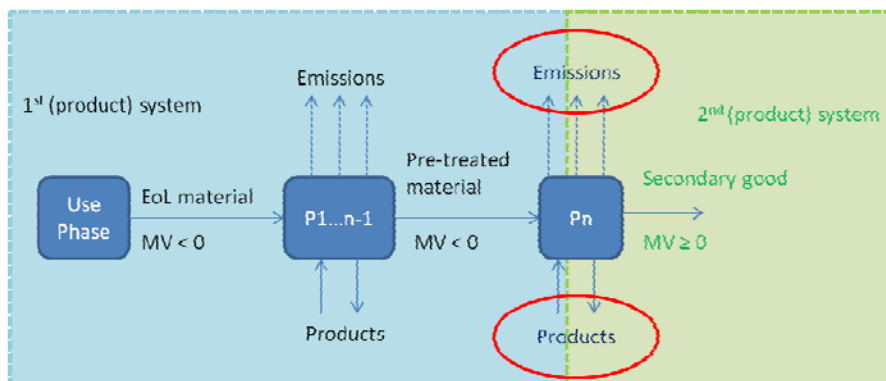
- A determining physical causality when it exists
- Another relationship between co-products like the economic value

- **Market value of feed ingredient is negative**

In those cases where the material cannot be sold directly, it is not a co-product. Two scenarios can be differentiated according to the ILCD Handbook:

- No valuable product is produced at all (does not concern the materials used in feed)
- A valuable product is produced during the material treatment. In that case, all treatment processes that are necessary until the treated material achieves a market value of zero are within the responsibility of the first system (this means that an allocation should be performed between all the products of the first system including the pre-treated material when the first system is assessed. Definition of system boundaries is very important in that regard).

An allocation of burdens to the secondary goods can be done at that process step where a valuable secondary good is processed. In the figure below the inventory of the treatment process step P_n where the material crosses the zero market value border is to be allocated between the two life cycles. The encircled emissions and products are to be shared between the pre-treated material (i.e. the first system) and the secondary good that leaves the P_n process (i.e. the second system). This allocation should be performed as usual with the exception that, when economic allocation is used, the absolute value of the negative market price of the pre-treated material should be used. One can interpret this as an allocation between the secondary good and the material treatment service.



Adapted from ILCD Handbook

² ILCD Handbook: General guide for Life Cycle Assessment - Detailed guidance – JRC-IES - 2010

5. Legal hurdles to the feed use of food materials not destined to human consumption

Former foodstuffs are already used in the feed sector and the only technical limitations to their feed use are compliance with the feed safety standards or absence of a sufficient nutritional value for animals. There is scope for further valorisation of former foodstuffs in feed, but several bottlenecks need to be addressed, in particular through a clarification/amendment/completion of the legislation. These bottlenecks are:

- The absence of tolerances for the presence of packaging residues in unpacked former foodstuffs;
- The inappropriate current wording, and thrust, of the waste legislation, which gives rise to potential feed safety concerns and reluctance from the feed sector to use material having been classified as waste, whether for safety or image reasons;
- The lack of clarity / adequate bridge between the Food and Feed Hygiene legislations, in particular as regards the status of the material (from food to feed) and the relevant responsibilities/hygiene requirements which operators of the former foodstuffs chain are subject to;
- The unclear status of former foodstuffs containing products of animal origin such as milk or egg products;
- The national incentives provided to the recycling of former foodstuffs for energy production.

6. Towards a review of the legislative framework

A review of the EU legislation should be undertaken in order to address the above bottlenecks. This should be achieved with a particular attention put on traceability, safety, and what is reasonably achievable, while avoiding disproportionate administrative burden and ensuring a level playing field.

6.1. Tolerance for presence of packaging residues and status of packed former foodstuffs

- **A tolerance for the presence of packaging residues** in unpacked former foodstuffs should be set based on feed safety assessments provided by EFSA and following the ALARA principle. Best available techniques for unwrapping enable reduction in the amount of packaging down to 0.15 % (based on the Rikilt method for the quantification of packaging residues in processed former foodstuffs).

6.2. Compliance with General Food Law at any point of the value chain of former foodstuffs

- The principles established under **the General Food Law** should apply **all along the life cycle of former foodstuffs** from the moment they cease to be a foodstuff until they are used in feed. In particular, **traceability and safety** should be ensured all along the life cycle of former foodstuffs and responsibilities clearly established. This means that:
 - o All operations related to the storage, transport and placing on the market of former foodstuffs directly as feed or for further processing should give rise to **registration as Food Business Operators and Feed Business Operators as appropriate** and the Food and Feed Hygiene Legislation should be reviewed to avoid any gap and clarify the respective responsibilities.
 - o In particular, **compliance with relevant feed hygiene requirements** for the **operations of transport, storage and placing on the market of former foodstuffs should be achieved under the responsibility of the food business operator**; this could be secured by requiring that Food business operators are registered as feed business operators and, if necessary, by the establishment of specific requirements for the storage, handling and transport of former foodstuffs in the Feed Hygiene legislation.

- Specific conditions may be considered to allow the use of former foodstuffs originating from retailers in order to provide guarantees in terms of traceability, integrity and safety for feed use; this may imply that the food business operator having originally manufactured the foodstuff would have to remain responsible for collecting, storing and transporting the former foodstuffs from the retail shop to the former foodstuffs processors or back to its own premises.
- Producers of former foodstuffs should in any case be **registered as feed business operators when placing former foodstuffs directly on the feed market.**
- **Processors of former foodstuffs should be subject to approval** as feed business operators, according to article 10 of Feed Hygiene Regulation (EC) No 1831/2003.

In order to help implementation of the legal requirements under Food and Feed Hygiene, all appropriate representatives of the former foodstuffs chain, in particular the organisations of the Food & Drink industry, the former foodstuffs processors, the compound feed industry and farmers should develop a **joint specific guide for good hygiene practice** that could be submitted for endorsement by EU authorities in accordance with art 22 of the Feed Hygiene Regulation (EC) No 1831/2003 and article 9 of the Food Hygiene Regulation (EC) No 853/2004.

- In accordance with the integrated “stable to table” approach, **the responsibility for controlling** former foodstuffs at any stage of the storage, handling, transport, placing on the market and further processing **shall stay with feed & food controls authorities.**