Evaluating inputs for organic farming – a new system

Case study: Hydrolysed proteins

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13 October 2005

Overview

- Objective and method
- Hydrolysed protein matrix
- Key issues evaluators
- Discussion of key issues
- Conclusions

Objective and Method

Objective:

- Find out whether the matrix works
- Provide an example for real applicants

Method:

- One applicant representing a member state
- 3 experts representing the expert panel

Only first phase of an evaluation process!

Matrix: Application form

- Name: Hydrolysed proteins of animal origin
- Composition: Amino acids, peptides, polypeptides, denaturated proteins.
- Nutrients: HyPro contain 5 - 10 % N (mainly as organic N). In addition, they contain 2 - 8 % Ca.
- Quality: The composition of HyPro as a category varies widely with different materials of origin and with different hydrolysis processes.
- Form: Fluid or solid.
- Use: Fertiliser, biostimulants and complexing agents.

Matrix: Application form

- Approval in EU: At present hydrolysed proteins are approved for use in conventional agriculture in Italy (according to the Law 1984/748) and Spain.
- Crops: Horticulture (vegetables & fruit trees), winter cereals.
- Application method:
  - to the soil, by fertigation, when utilised for their fertilising properties;
  - to plants, by spray application, when utilised for their biostimulating or complexing properties.
- Dosage and application rate (empirical figures from Italy):
  - Fertigation, horticulture: 2 - 12 kg N/ha/cropping cycle;
  - Fertigation, fruit trees: 5 - 20 kg N/ha/year;
  - Spray application: 0,5 - 1 kg N/ha/application.

Matrix: Application form

Key issues in favour

- Precedents with similar raw materials.
- Recycling of waste material.
- Traditional use in Italy and Spain.
- Necessary for some crops.

Key issues causing concern

- Origin of parts of the animals from factory farming cannot be excluded.
- Not all manufacturing methods equally compliant

Key issues evaluators

Key issues in favour

- Alternatives and necessity

Key issues causing concern

- Factory farming: origin of material
- Manufacturing
- Effect of impurities: Cr residues
- Public perception

E 4.02-3 Alternatives

Applicant	Evaluator	Score
(1) HyPro provide N quickly to ensure good crop performance. (2) HyPro are also used for their capability to enhance soil microorganisms. (3) HyPro are also used in association with other fertilisers.	For some purposes, HyPro could be replaced by other products such as blood meal or melasses, but not for other purposes. There are no other permitted N fertilizers with comparable properties.	+1 or +2

E 2.01 Origin of materials

Applicant	Evaluator	Score
HyPro are produced from: (1) Slaughterhouse residues (i.e. meat, blood or fish meal) (2) Tannery residues. (3) Other residues (i.e. ground feather, waste wool).	**wastes of animal origin**	**0**

E 2.03 Factory farming origin

Applicant	Evaluator	Score
Origin of parts of the animals from factory farming cannot be excluded.	**Factory farming origin cannot be excluded for part of the material.**	**-1**

E 3.01 Manufacturing methods

Applicant	Evaluator	Score
A) Thermal hydrolysis: B) Enzymatic hydrolysis C) Chemical hydrolysis	Chemical hydrolysis should only be used exceptionally. In the presence of two other methods, there seems little need to allow chemical hydrolysis.	A=0; B=-1; C=-2

E 5.03 Effects of impurities

Applicant	Evaluator	Score
A) For products of most origins: no significant effects expected. B) For products from post-tanning residues: some release of Cr (within legal tolerances in Italy).	**A) Most HyPro: no concerns B) HyPro derived from post-tanning wastes constitute an avoidable source of Cr pollution (avoidable because other raw materials are available).**	**A=0; B= -1 or -2**

E 8.01 Public perception

Consumption-related views.

Applicant	Evaluator	Score
A) Supply of high quality products. **B) BSE worries** **C) Vegetarians could be upset**	**A) Some concerns over BSE risks (whether or not scientifically justified).** **B) Worries of vegetarians about the "contamination" of edible plant materials with animal materials.**	**-1 to -2**

E 8.02 Public perception

Farming practice-related views

Applicant	Evaluator	Score
A) Nutritive elements in the short term **B) Origin is not consistent with organic farming principles (but other products such as blood meal set a precedent).** **C) Necessary for certain crops.**	**A) Quickly available fertilizers is last option.** **B) Post-tanning wastes unnecessary pollution** **C) Factory farming see E 8.03.**	**-1 to -2**

E11.04 Proposed restrictions

- Need recognized by the inspection body or inspection authority;
- Not from chemical hydrolysis;
- Not from wastes collected post-tanning (this restriction was only supported by some experts).

Conclusions

- The completed matrix gives an adequate and quick picture of key issues associated with the product.
- The matrix reflects opinions of the evaluators.
- Controversial issues have been identified and restrictions on manufacturing and origin of materials have been proposed.
- The next step would be to evaluate the product according to the restrictions proposed.

Question to the audience

- Were the critical issues identified and evaluated effectively, bearing in mind the multiple origins, manufacturing methods and uses?