SUSTAINABLE FERTILISERS SPECIALISTS

A European market for circular fertilisers, Bergamo, April 10th, 2024

Organic fertilisers from sewage sludge?

Biosolids are derived from the treatment of wastewater sludge, and consist in a mix of water, mineral and organic materials.

Major types of Biosolids :

- Digested Biosolids
- Lime treated Biosolids (Gypsum of Defecation)
- Composted Biosolids
- Dried Biosolids

EU fertiliser regulation allows only mineral fertilisers from sewage sludge ashes.

WHO WE ARE

EFAR (European Federation for Agricultural Recycling) is a non profit association representing european companies specialised in the **land application** of Biosolids, Biowaste and any other Biodegradable waste.

After appropriate **treatment** such as Anaerobic Digestion, Liming, Composting or Drying these materials are being used as soil improvers or fertilisers. Due to their renewable origin they are considered as **Sustainable Fertilisers**.

EFAR IN FIGURES

- **19 members**.
- **8 European countries** represented.
- **4 million tonnes of Sustainable Fertilisers** recovered.
- **130 treatment sites**.
- **15 000 farmers** in partnership with.

OUR VALUES

EFAR members believe that the following principles have to apply to the production and beneficial use of Sustainable Fertilisers:

- **Protection of human and animal health as well as the environment** when Sustainable Fertilisers are used on land must be the priority.
- Integration of enlarged **environmental contamination risks** when substances are registered (REACH).
- Contaminants **source prevention** has to be the rule.
- Organic waste have to be treated and preferably used as **organic** fertiliser **locally**.

OUR VALUES

In **EFAR** we believe that the following principles have to apply to Sustainable Fertilisers land application:

- **Soils have to be preserved** as they are a vital and irreplaceable resource for safe food production.
- **Soil health has to be protected** as they ensure a wide range of critical functions such as nutrient and water cycling, hosting biodiversity, carbon sequestration.
- **Organic matter** is too precious for being lost.
- **Use of Sustainable Fertilisers** have to be favored.

EFAR MEMBERS COMMITMENTS

EFAR members are committed to:

- Adhere to the national and local **regulation**.
- Comply with the **waste hierarchy**.
- Contribute to the limitation of **climate change** and to **circular economy** through the beneficial use of Sustainable Fertilisers.
- **Monitor regularly** Sustainable Fertilisers and soil quality.
- Entrust Sustainable Fertilisers and soil analyses to **accredited labs**.

EFAR MEMBERS COMMITMENTS

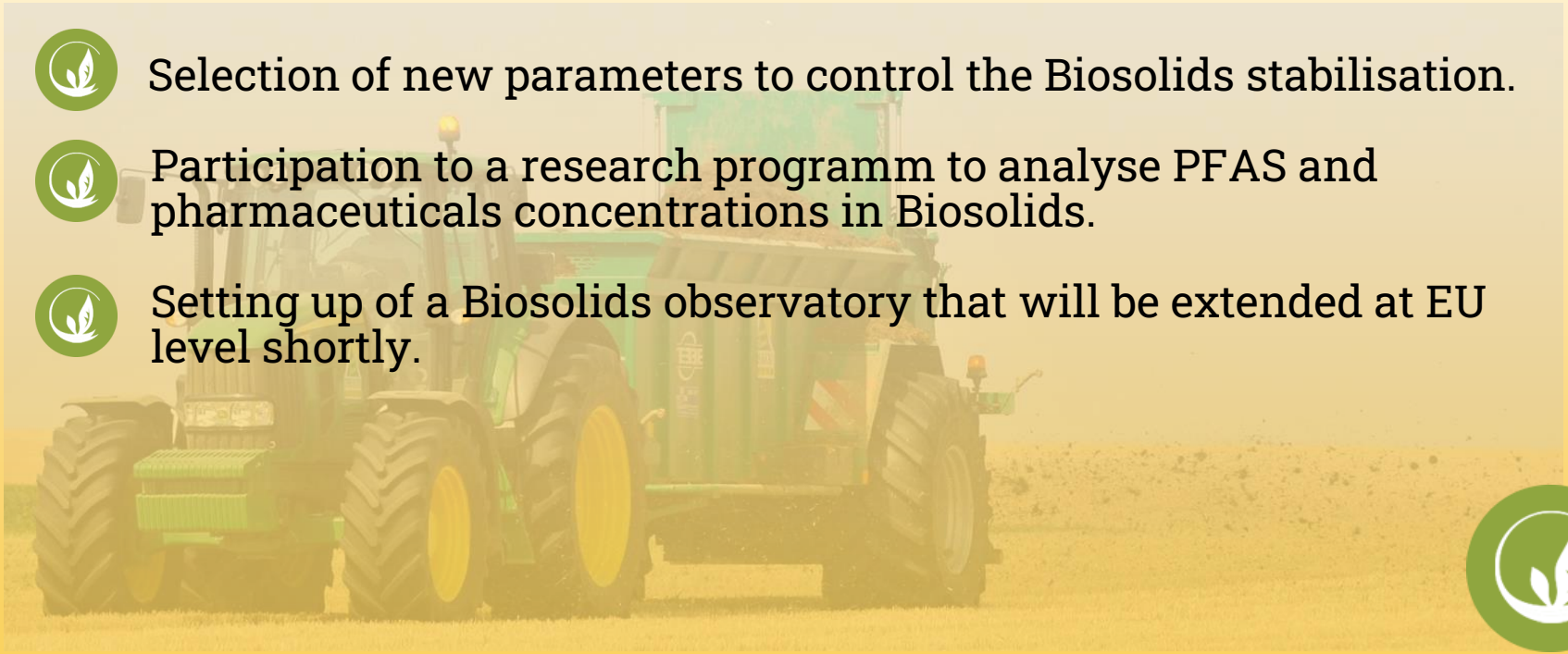
EFAR members are committed to:

- **Adapt the type of treatment** of the organic waste to their final use.
- Ensure **full traceability** of their operations.
- Act in **total transparency**.
- Participate actively to the development of new regulation and **QAS** related to their business.

EFAR ITALIAN MEMBERS COMMITMENTS

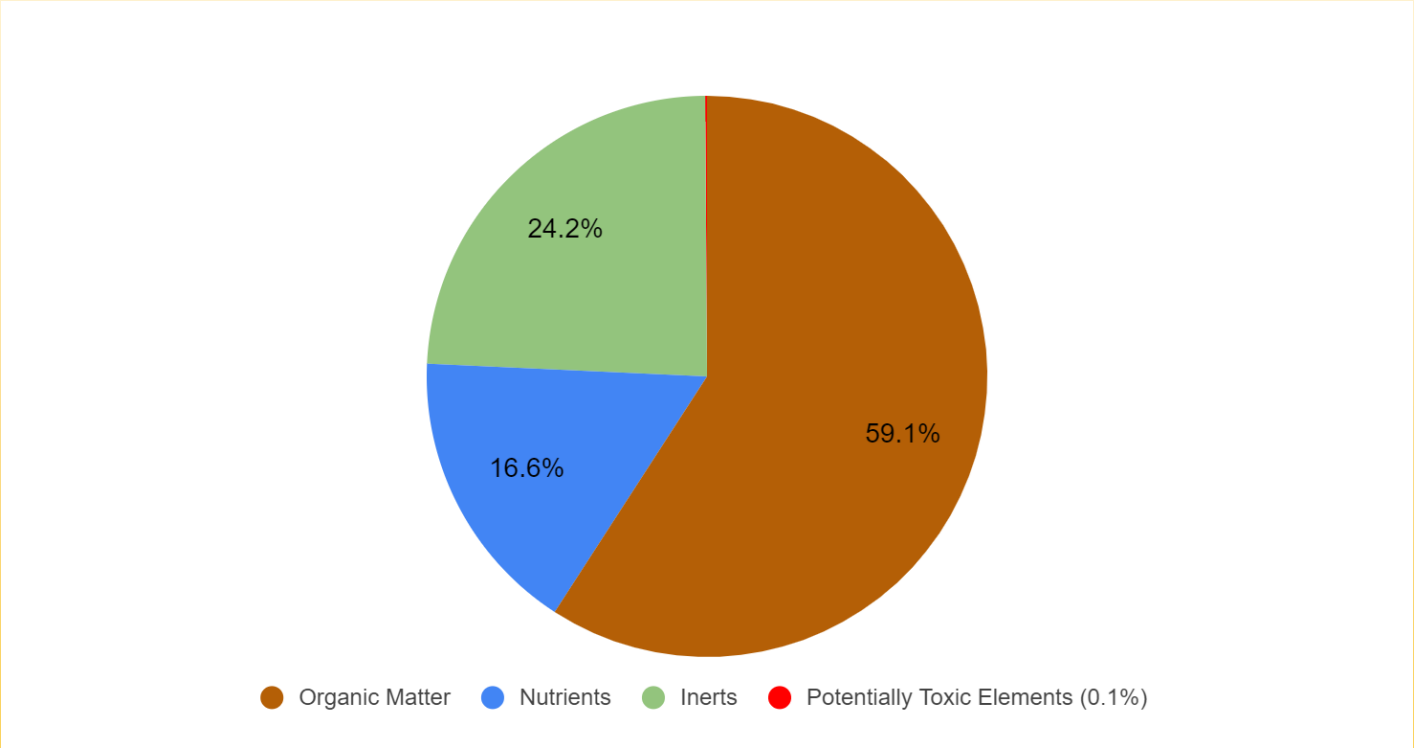
- Comply with the specific regulation of the Lombardy Region:
- Strict sanitization of the Biosolids - treatment with lime has to reach a pH of 12 for 24h.
- Phytotest with Lactuca sativa in laboratory for 21 days – proof that sludge has a beneficial effect on plant growth.
- Biosolids testing for additional organic parameters that are not requested in the sludge directive.

EFAR ITALIAN MEMBERS COMMITMENTS



- Selection of new parameters to control the Biosolids stabilisation.
- Participation to a research programm to analyse PFAS and pharmaceuticals concentrations in Biosolids.
- Setting up of a Biosolids observatory that will be extended at EU level shortly.

WHAT IS BIOSOLIDS DS COMPOSITION?



BIOSOLIDS TYPE OF USES

Type of Biosolids	Type of use	Spreading rate
Digested Biosolids	Organic Fertiliser	15 t WW/ha
Lime treated Biosolids	Calcium amendment	25 t WW/ha
Composted Biosolids	Soil Improver	15 t WW/ha
Dried Biosolids	Organic Fertiliser	3 t WW/ha

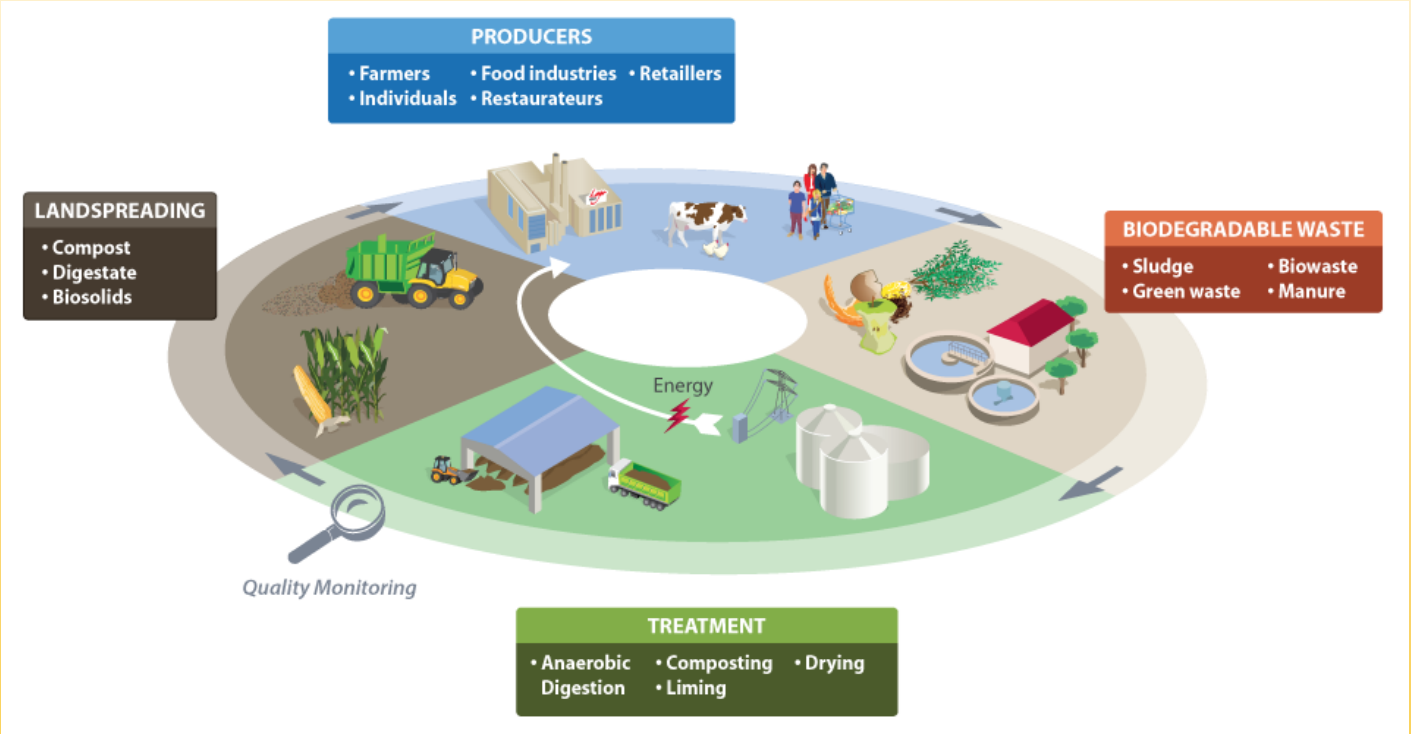
BIOSOLIDS LAND APPLICATION A CLIMATE FRIENDLY OPTION

The EU UWWTP are producing every year 8 Mt DM of Biosolids consisting in:

- 4 300 000 tonnes of Organic Matter,
- 250 000 tonnes of Nitrogen,
- 340 000 tonnes of P2O5 (15% of the EU imports)

In comparison with alternative options, Biosolids land application avoid the emission of 15 Mt CO2 equivalent.

BIOSOLIDS LAND APPLICATION IS PART OF CIRCULAR ECONOMY



BEST PRACTICES FOR BIOSOLIDS LAND APPLICATION

- Regular monitoring of the Biosolids treatment process and of the Biosolids quality (nutrients, contaminants).
- Landbank selection on environmental criteria.
- Establishment of nutrient management plans.
- Implementation of full traceability.
- Logistics management (transport, storage, spreading).

THANKS FOR YOUR ATTENTION

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