



EIP-AGRI practice abstract

Short title:

Technology for N recovery as microfiltered slurry/digestate/sludge starting from raw slurry/digestates/sewage sludge with microfiltration system

Summary:

Digestate_100% is a technical innovation effectively applicable in farms. It is an integrated system capable of converting the digestate into a valid business resource. In particular, digestates are processed into secondary products: a solid palpable fraction; a dense fraction; a largest proportion microfiltered digestate.

Electricity necessary for the separation and microfiltration of digestate is almost 25-30 A. No water is used in the digestate processing.

The microfiltration of digestate can be optimally combined with the drip lines for fertigation, as it is able to guarantee a microfiltered fraction in which all particles larger than a defined diameter (which depends on the spacing sieve) are excluded so they can't clog up the drippers.

Thanks to its capability to maximize the fertilizer efficiency of the digestate, distributing it directly on growing crops, the system allows to significantly reduce the use of mineral fertilizers (up to zero).

It is potentially useful not only in the field of industrial crops but also on fruit and vegetable crops, even in organic farming.

The input materials are livestock slurry, digestates, sewage sludge. And the output product are microfiltered slurry/digestate/sludge.

Working capacity of the plant is estimated between 5 and 10 m³/hour, but it depends on farm organization. Indeed it can also be used in small farms treating few tons per day (<10 t/day).

NH₃ and N₂O air emissions can be reduced significantly thanks to digestate dilution and slow distribution through fertigation. NO₃⁻ leaching/runoff can be reduced too, compared to conventional digestate application.

For more information: https://nutriman.net/farmer-platform/technology/id_275