

Biorefineries: Spinning farm waste into goodies

A second chance for leftovers from
potato, olive, cereal and tomato

The Challenge

Turning waste into sellable products holds major advantages. And it can be done. Previous projects converted farm leftovers from cereal, potato, olive and tomato into more valued products. So far so good. The biggest challenge though is to put the processing steps together, sequentially in a refining plant, and for this to be adopted by farm co-ops and run at a profit. The target is for 40 per cent of the waste to be converted into high value material. The leftover biomass will be re-used to make biogas. The plants must be optimised to convert waste to new products to prove economical.



► Our story

Around one-third of all food produced each year is wasted. What if some of this waste could be converted into useful products? This is the aim of a demonstration project in Europe called Agrimax. The project will take leftovers from tomato and and processing plants in Italy and process them in a new pilot plant. A plant in Spain will do the same for waste from potato and and industry.

The vegetable matter will be broken down using ultrasound and heat, then using enzymes and chemical reactions. Three sorts of goodies will be taken from the waste. First, ingredients for the food industry will be extracted; this will include anti-oxidant compounds for adding healthfulness to foods. Cellulose fibres that can be added to soups, juices and other products for texture will also be recovered. Second, materials for films and fertilisers for agriculture will be extracted. Third, the raw materials for bioplastics.



► The solution

As the bio-refinery plants make potato and olive, cereal and tomato into marketable ingredients, agriculture and packaging materials, growers and manufacturers will see opportunities to coordinate supply of waste inputs. A web-based platform allows growers and others to propose raw material for conversion, while manufacturers and others can request samples of the materials to incorporate into their products. By realising this demand for waste, and producing a valuable raw material, a production chain will be born.

► What's it for?

- *Rather than disposing of bulky agricultural leftovers and industrial waste via traditional methods, new processing plants offer growers more sustainable, more profitable options*
- *Waste from food production will be born again as valuable ingredients in our food, ingredients that are healthy and sustainably produced*
- *The farm by-products will in some cases be returned to the land in the form of solid compost and valuable liquid fertiliser from the biorefineries*
- *Leftovers will be remade into greener bioplastic packaging; the project will attempt to extend the shelf-life of this and improve its performance*
- *European farm to consumer production chains will be made more sustainable, by putting waste to productive use*
- *To move away from products based on fossil fuels*

► Contact us

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