



Best practices in the production of tomato pomace, peels and seed for valorization purposes

Around 150,000 tonnes of tomato processing waste are produced each year in Italy alone. Tomato waste, mainly composed of peels and seeds has the potential to be used as a feedstock for biobased products. However, its high moisture level poses challenges for transportation and reduces stability over time. Since peels and seeds offer distinct valorization opportunities, TomaPaint has developed a process to separate them efficiently and reduce the water content, thereby enhancing the value of the extracts and improving their resistance to microbiological degradation.

Project activity

As part of the AgriLoop project, TomaPaint has successfully developed a sustainable, two-stage process to dehumidify tomato processing waste. First, peels and seeds are separated efficiently using a flotation system that leaves a residual seeds concentration in the resulting product of less than 10%. This equipment is 30m long and can treat more than one ton of by-products per hour.

The second stage of the TomaPaint process uses excess heat coming from an associated biogas plant (a sustainable and renewable energy source), to dry the peels and seeds up to a residual humidity of less than 6%.

Peels and seeds are separated to enable distinct valorisation. Peels for example contain cutin (a polymer used in applications such as paints), while the seeds are used for oil production. Separating them before processing improves extraction yields and purity compared to processing mixed pomace.

	Pomace		Floated Peels		Floated Seeds	
	Wet	Dried	Wet	Dried	Wet	Dried
Humidity % (w/w)	71.7	3.3	76.4	4.2	72.1	5.2

Key findings and recommendations

The TomaPaint process has the following benefits:

- Efficient separation of tomato peels and seeds.
- Microbiological stabilization of the product over time.
- Low carbon dioxide emissions due to the use of excess heat from a biogas plant for drying.
- Reduced transportation costs.



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For more information about the AgriLoop Project, visit:

agriloop-project.eu



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