Bioresource

Unlocking hidden value from organic waste

Every day, large volumes of nutrient-rich vegetable side and waste streams are lost to low-value applications or disposal. At the same time, industries are searching for sustainable sources of functional ingredients, proteins and natural raw materials. We believe valuable resources should never go to waste. Colubris is on a mission to convert underutilized vegetable side streams into high-value ingredients, increasing revenue potential while supporting the transition towards a circular economy and reducing pressure on natural resources.

By combining smart recovery technologies with practical process knowledge, we extract food-grade dietary fibres, proteins and natural sugar syrups from residual vegetable streams. These ingredients can be used in new food processing applications, transforming underutilized resources into commercially valuable products. We help our customers turn waste into opportunity, creating both sustainable impact and economic value. Because what is discarded today can become the sustainable ingredients of tomorrow.



Why plant-based side streams matter

Plant-based side streams often still contain valuable components, including proteins, dietary fibres, sugars and other functional compounds. By recovering these components, producers can unlock additional value from existing resources and supply food-grade ingredients for use in new food applications. For example, onion powder produced from cleaned and segregated onion peels is a food-grade ingredient that can be used for flavour enhancement and nutritional enrichment. Dietary fibres can contribute to texture, stability and nutritional value in a wide range of food products, while natural sugar syrups provide opportunities for ingredient recovery from streams that would otherwise be discarded. Plant-based proteins play an important role in sustainable food production. Compared to animal proteins, they generally require less land and water and are associated with a lower environmental footprint. Recovering proteins from vegetable side streams enables more efficient use of available resources while supporting the growing demand for sustainable plant-based ingredients.

From side stream to high-value ingredient

Colubris specializes in recovering valuable products from plant-based materials, including:

Proteins
For use in food applications and other protein-rich products.

Fibres
For food applications or industrial uses, depending on the material and required specifications.

Syrups
Concentrated liquid fractions that can be preserved and reused as valuable ingredients.

Our experience includes processing side streams from various vegetables. Each raw material has its own characteristics, which is why we always start by understanding the composition, application potential and economic feasibility of the stream.

A step-by-step route to a scalable solution

Every successful bioresource project starts with a clear understanding of both the material and the business case. Colubris guides producers through a structured development process, from first assessment to full-scale implementation.

1 ANALYSIS
We start with a quickscan of the side stream, including a preliminary business case and feasibility analysis. This helps determine whether the stream has sufficient potential for recovery and valorisation.

2 LAB-SCALE VALIDATION
In this phase, we focus on product application, specifications and economic analysis. The goal is to understand what can be recovered, how it can be used and whether the process is commercially viable.

3 PILOT-SCALE VERIFICATION
Promising results are tested on a larger scale. This step verifies the process under more realistic conditions and provides the basis for further engineering and contracting.

4 FULL-SCALE IMPLEMENTATION
Once the technology, product quality and business case are validated, Colubris designs and realizes the full-scale solution.

Video
Take a look at our Bioresource Protein Biorefinery Pilot Unit



The impact of bioresource recovery

Generate additional revenue from selling valorized food ingredients.



Environmental impact
Less organic waste, better use of raw materials and more efficient use of water, land and energy.

Economic impact
Eliminate waste costs and generate new revenue streams.

Food system impact
More efficient production of plant-based ingredients that support sustainable food applications.

For Colubris, bioresource recovery is not just about technology. It is about helping producers make practical progress towards circular production by creating value from resources that are already available but underutilized, discarded, or costly to dispose of. By recovering valuable ingredients from existing side streams, producers can reduce waste, lower disposal costs, create new revenue opportunities and improve overall resource efficiency.

Let's unlock the potential in your side streams

Colubris develops and realizes solutions that turn organic side streams into valuable products. With our expertise in separation processes, water treatment and bioresource recovery, we help producers move from waste reduction to value creation. Together, we can explore the potential of your plant-based side streams and define a route towards a scalable, future-ready solution.

Would you like to learn more about our solutions?
Contact one of our experts or visit our website colubriscleantech.com.

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