

THE POSITIVE IMPACT OF CO-PRODUCTS ON SUSTAINABLE PET FOOD

The importance of fact based communication

To ensure a more sustainable future, the environmental impact of pet food should be as low as possible. By-products (also called co-products) from food production have been used for ages as ingredients in animal feed, including pet food. While in the past they were often regarded as leftovers with limited value, co-products are now increasingly appreciated for their potential to minimize food waste, and reduce environmental impact. This is reflected by a growing consumer demand for more sustainable pet foods. Duynie Ingredients calls for understandable and fact based communication on the environmental benefits of using co-products in pet food.

CO-PRODUCTS REDUCE ENVIRONMENTAL IMPACT

A growing movement in the pet food industry, which includes academic researchers, is focusing on evidence that co-products have a high intrinsic environmental value. A Life Cycle Assessment (LCA) of ingredients based

on co-products from the potato industry has demonstrated that using these products in combination with sustainable production processes can result in a lower carbon footprint, water footprint and land use.

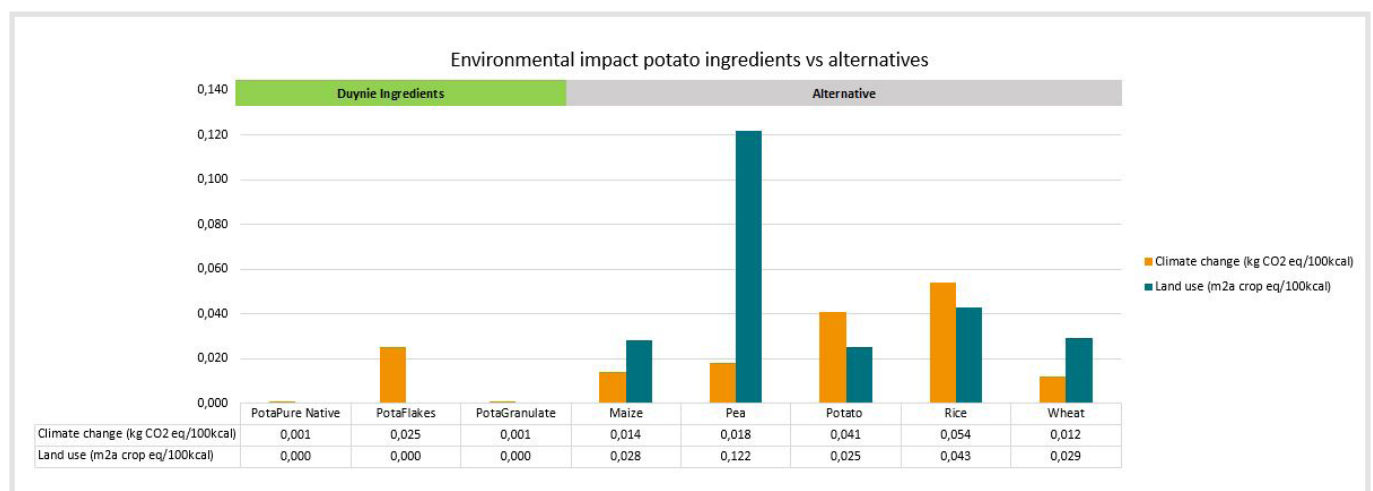


Figure 1. Environmental impact of potato ingredients versus alternative ingredients

Life Cycle Assessment (LCA) of co-products

To gain insight into the environmental impact of ingredients based on co-products versus conventional ingredients, an LCA was performed by Blonk Consultants. LCA is a method that describes the whole life cycle of a product, calculating the environmental impact at every stage of the product's life cycle, from cradle to grave. For conducting the LCA, FEDIAF's PEFCRs (Product Environmental Footprint Category Rules) for Prepared Pet Food for Cats and Dogs have been followed. The analysis results in an overview of scores on each of the environmental impacts (see figure 1 for impact on land use and climate change).

"The calculated results show that the majority of Duynie Ingredients products have a better environmental performance than their conventional alternatives. All impact from potato processing is allocated to the potatoes for human consumption and the rest of the wet potato co-products have zero impact at the point of production. The combination of the raw material based on wet co-products of the food industry and the drying process using residual heat, results in a significant lower carbon footprint, water footprint and land use,"

This concludes Janjoris van Diepen, Senior Consultant at Blonk Consultants.¹

Impact

Based on the results of the LCA and to provide clear information on the product's impact, an infographic can be developed, presenting the

impact in terms of understandable quantities and savings on carbon footprint (figure 2).

One MT of a potato ingredient based on co-products compared to conventional potato ingredients:



Figure 2. Sustainability savings of using an ingredient based on potato co-products versus conventional potato ingredients

¹ Blonk consultants is an international and independent leader in the field of environment, sustainability, nutrition and health.

Sustainable processing

Not only the choice of raw materials, but also sustainable processing can lower the environmental impact of the products.

Duynie Ingredients uses residual heat and green electricity in its production plant to dry the products to the desirable dry matter content per ingredient.

To be able to calculate the LCA, experts collect data on the energy used for drying the co-products and on the emissions related to the energy production needed for the processing. The data developed in the LCA model is supported by the Agri-footprint database.

THE IMPORTANCE OF COMMUNICATION ON CO-PRODUCTS: SHARING THE GOOD NEWS

To support the increasing appreciation for co-products, the pet food industry has a role to play in communicating about the environmental value of this type of pet food ingredients. Communication towards both

stakeholders and consumers is of importance, for example through sustainability reports, on websites and on packaging. Standardized certification and / or labeling is proposed as a helpful measure.

Perception of co-products

When it comes to communication about sustainability goals, pet food producers generally refrain from mentioning the use of co-products in sustainability reports or on the sustainability page of their website. Why is communication about co-products in pet food almost non-existent? Possibly, these products are still perceived as having a low nutritional value and quality, because they have long been regarded as leftover; however, this perception can be contradicted. For example by clearly communicating on what co-products really are.

A good start would be to take a look at the definition of by- or co-products. The AAFCO

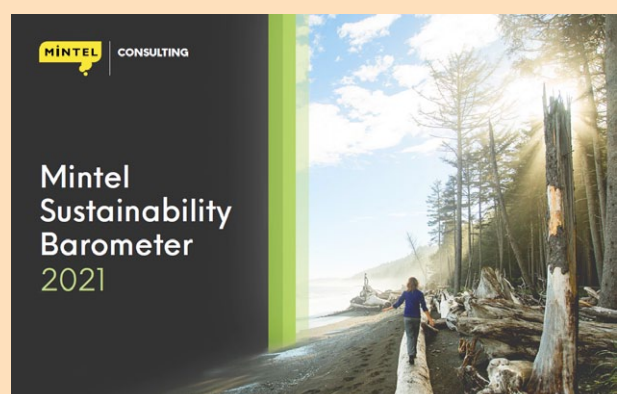
(Association of American Feed Control Office) defines by-products as: "Secondary products produced in addition to the principal product." This means that they can be secondary products from any primary food product source. There may also be more than one co-product from processing a single food product.

In addition, the notion that co-products are perceived to be of low value by consumers may be outdated. This is supported by the results of the 2021 Mintel Sustainability Barometer, showing that the use of ingredients based on co-products is regarded as an impactful sustainable solution (see frame).

The 2021 Mintel Sustainability Barometer

In the recently launched Sustainability Barometer from Mintel, consumer behaviors, purchase preferences and attitudes regarding sustainability were tracked. The results showed that consumers hold companies most responsible for environmental and social targets regarding consumer goods, including pet food. In addition, different environmental solutions perceived as having 'high to moderate impact' are presented. (Pet) food produced from leftover ingredients is seen as an impactful solution (66% impact).

Also, investments in and use of renewable energy is regarded as a high-impact solution (82% impact).



Actions proposed

Although consumer appreciation may not be as low as formerly thought, an important question is still how to encourage them to buy more sustainable products. According to the above mentioned Mintel study consumers can effectively be encouraged by more clarification, quantification and certification through communication, for example on the packaging. Information that informs them about the product's impact, presenting understandable quantities and savings on carbon footprint –

for example in the form of standardized certification or labeling – is proposed as an effective solution.

To start informing consumers and stakeholders about the sustainability of their products, Duynie Ingredients developed an [LCA factsheet](#) of potato and carrot ingredients with clear figures about savings on carbon footprint, water footprint and land use, to use in overall impact calculations about pet food formulas.

Collective responsibility

The European pet food industry, united in the branch organization FEDIAF, acknowledges its collective responsibility to reduce the environmental footprint of pet food to contribute to a better world. To support producers in providing transparent environmental information based on a harmonized European approach, FEDIAF is working on a framework for sustainable production communication based on LCA-

data. Responsible ingredient sourcing, for example through using co-products – is one of the focus areas of FEDIAF's sustainability strategy, and will be included in the framework.

FEDIAF has defined three focus areas: sustainable sourcing, environmentally friendly production and recyclable packaging. More information about FEDIAF's strategy can be found in their [annual report](#).

Duynie Ingredients is Europe's leading producer of plant-based ingredients for the pet food industry

Duynie Ingredients produces sustainable plant-based ingredients, based on co-products. The main products are potato, chicory, sugar beet, carrot and other vegetable ingredients.

Duynie Group, the Dutch mother company of Duynie Ingredients, is working to bring wider use of co-products into farming and other industries since its foundation, 50 years ago. The co-product concept first started to become better and more widely understood around 25 years ago.

Creating added value from plant-based co-products is the core business of the company. It currently processes around 4.5 million tons of plant-based co-products, resulting in animal feed, ingredients for food and pet food, products for industrial application, or biomass for energy production.



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