

SUSTAINABLE ANIMAL FEED



SUSTAINABLE ANIMAL PRODUCTION



MORE VEGETABLE PROTEINS



FLEMISH PROTEIN STRATEGY 2021-2030

MORE NOVEL PROTEINS



SUSTAINABLE CONSUMPTION



GREATER PRODUCT DIVERSITY



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Local, sustainable and healthy proteins
from production to consumption

FLEMISH PROTEIN STRATEGY 2021-2030

Creating opportunities for prosperity,
the environment and health together

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CONTENTS

1	The context	3
1.1	Responding to challenges and trends	3
1.2	Increasing sustainability and diversification	4
1.3	Economic and societal opportunities	
2	The policy framework	7
2.1	International and European policy framework	7
2.2	Flemish policy framework	8
2.3	Protein strategy and the recovery	10
3	Vision.....	11
4	Strategy: six strategic themes	12
4.1	Sustainable animal feed	12
4.1.1	Vision	12
4.1.2	Objectives	12
4.2	Sustainable animal production (meat, dairy and eggs)	13
4.2.1	Vision	13
4.2.2	Objectives	13
4.3	More vegetable proteins	14
4.3.1	Vision	14
4.3.2	Objectives	14
4.4	More novel proteins	15
4.4.1	Vision	15
4.4.2	Objectives	15
4.5	Greater product diversity: diversity in processing for diversity in supply	15
4.5.1	Vision	15
4.5.2	Objectives	16
4.6	Sustainable protein consumption	16
4.6.1	Vision	16
4.6.2	Objectives	17
5	Future trajectory, governance and follow-up	18

1 THE CONTEXT

1.1 RESPONDING TO CHALLENGES AND TRENDS

Proteins are a crucial part of human nutrition. They are indispensable building blocks for body growth and maturity. Proteins are found in both animal and vegetable products. Animal proteins are found in meat, fish, eggs and dairy products. Vegetable protein sources include cereals (bread, rice, pasta, etc.), legumes, nuts and, to a lesser extent, vegetables and potatoes ([Flanders Institute for Healthy Living, 2020](#)).

The current model of protein production and consumption is under pressure. Scientists indicate that the protein supply must become more sustainable in order to meet challenges in the areas of food security, environmental impact and public health (WUR, 2019).

Owing to the growing population and prosperity, the global demand for (animal) proteins is rising. Global meat consumption is expected to continue to grow in the coming years. Without adjustments to the current production model, an increasing global animal protein production will be insufficiently sustainable due to the major climate and environmental impact and the high demand on increasingly scarce raw materials and land use ([LARA, 2018](#)). Eating less and more sustainable animal protein products and more vegetable protein products is regarded as an important strategy to improve the ecological sustainability of the food system ([MIRA, 2018](#)). Furthermore, it is desirable, within the framework of balanced and healthy diets, to reduce consumption of animal protein sources, and in particular red and processed meat. The food triangle calls on Belgians to eat less meat and to vary more with vegetable protein sources, to give preference to food which is hardly processed or not at all, and to avoid food waste and overconsumption ([Flanders Institute for Healthy Living, 2020](#)). A shift in protein production and consumption, also known as protein transition, is increasingly highlighted by scientists and stakeholders as an important piece of the broader protein puzzle ([Technopolis Group & Blonk Consultants, 2018](#)). This is already evident from the growing popularity of flexitarianism in Europe, which is pushing up demand for vegetable protein sources, such as legumes, whether or not as an ingredient in processed food products. To meet the rising demand, the import of legumes into the EU is picking up. In order to provide a local response to this, Flanders too is gaining experience in the local cultivation, processing and marketing of legumes (e.g. soya) and other protein-rich crops (e.g. quinoa), often in chain partnerships.

Flanders and the EU have a historical shortage of concentrated protein sources and rely mainly on protein imports from the US and Latin America to feed their domestic livestock industry. In response, the livestock feed sector wants to use more sustainable soya and valorise waste streams, among other things. The Belgian Feed Association (BFA) and the Department of Agriculture and Fisheries have been working together for a decade through action plans on alternative protein sources. In September 2020, BFA launched a Charter containing 12 sustainability goals that the livestock feed industry wants to achieve by 2030.

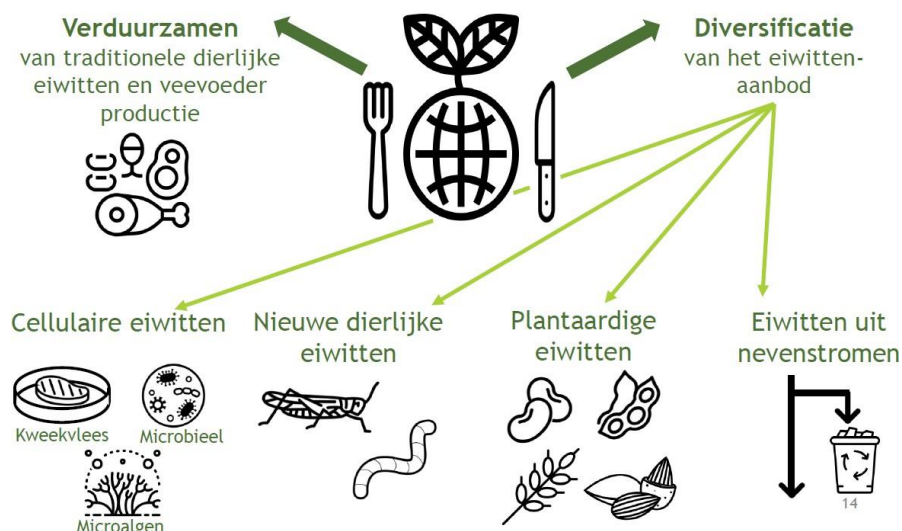
The livestock sector also faces challenges and is actively pursuing sustainability (in a broad sense). Meat consumption in Flanders and in the Western world will likely decrease, e.g. for reasons of health, climate awareness or animal welfare. The number of consumers who do not consume animal products or meat will grow, and among those who do, average consumption will drop in favour of (partially) vegetable and other alternatives. Still, sustainably produced animal products, including meat, still fit into a healthy, balanced and sustainable diet if consumed in moderation. In Flanders, the livestock sector therefore continues to play an important role in the context of food and supply security and safety as well as in terms of circularity and production efficiency.

The livestock sector is an economic sector with a large ecological impact. The negative consequences manifest themselves, inter alia, in the form of emissions and leaching which have an adverse effect on the local and global environment, e.g. on the soil, water quality, biodiversity, air quality and climate. On the other hand, the fact that the livestock sector may contribute to shaping and maintaining the Flemish landscape, using products that are non-digestible by humans, such as grass and waste streams from the food and biofuel industries, and producing nutrients in the form of manure to nourish crops and add carbon is a positive thing. It is very important, both for the environment and for the image of the livestock sector, to minimise the negative and strengthen the positive impact.

Today, the sector is already making additional efforts to become more sustainable. This is illustrated, inter alia, by the Enteric Emissions Covenant and the sustainability monitoring in the various subsectors.

1.2 INCREASING SUSTAINABILITY AND DIVERSIFICATION

[Flanders' FOOD](#) (2020) distinguishes between making traditional animal proteins and feed production more sustainable on the one hand and diversifying the protein supply on the other. Diversification includes vegetable proteins, novel animal proteins, proteins from side streams and cellular proteins.



Source: [Flanders' FOOD](#), 2020

1.3 ECONOMIC AND SOCIETAL OPPORTUNITIES

The supply of more diverse, local protein sources and the associated consumption offer economic opportunities for Flanders. In 2019, a study team of Technopolis B.V. and Blonk Consultants carried out a [study](#) on this at the request of VLAIO. The study showed that this area offers various opportunities for the [business community](#) and knowledge sector in Flanders.

Due in part to the demand for locally grown products, the agricultural sector is showing initiative by growing novel protein crops such as soya. The cultivation of protein crops is, however, not fully competitive and needs to be further developed to make it economically profitable for arable farmers. Security of sale is essential here.

From a technological point of view, Flanders seems to be slightly lagging behind neighbouring countries in developing the production of meat structures (organic fibre structures similar to those of meat) and so-called 'in-vitro meat'. Yet there are plenty of opportunities in this field for Flemish companies: there is a strong scientific basis, and the meat and food industry is a strong local sector. This means that Flanders has a lot of technological know-how. Specifically processed meat offers good opportunities to increase the share of vegetable proteins without compromising on quality, taste and texture, thus reaching a broad target group of meat eaters and flexitarians.

Furthermore, in terms of proteins, Flemish consumers expect a more diverse supply which they can fit into their diets, with a larger share of non-animal proteins that is nutritionally, sensorially and ecologically balanced and attractive. It also means that eating habits will be subject to change. This condition creates an environment where producers and retailers are challenged to work together and bring high-quality products on the market.

Flanders has the ambition and potential to grow into a leading agri-food chain at the European level in terms of economic development, innovation and sustainability. Existing and novel protein crops and the development of innovative proteins constitute new, forward-looking earnings models for the entire agri-food chain. More sustainable animal production models and feed chains allow the livestock sector to anticipate new and growing markets that respond to major societal challenges such as climate change, and provide opportunities for more robust incomes.

Besides the economic potential, these developments also offer societal opportunities as regards ecological sustainability (the environment and climate) and health.

In terms of ecological sustainability, more local, vegetable and innovative proteins offer an opportunity to reduce our dependency on overseas protein imports and to subsequently lower the associated local and global environmental impact. The ecological impact of the protein supply will also be reduced as a result of more sustainable animal production and the trend towards greater consumption of vegetable proteins. In addition, several protein crops also have ecological benefits for the soil, such as nitrogen fixation and carbon accumulation.

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In the area of health, it is important to strive for an integrated approach based on the food triangle. Sufficient attention will also have to be paid to the social component by aiming for a balanced socially responsible diet for various target groups. New aspects of food safety in relation to novel protein sources will require additional focus.

The researchers conclude the report with the following policy recommendation: *"Formulate a broad vision and long-term strategy on the protein transition for Flanders across various policy areas."* In addition, the researchers recommend that the business community, research institutes, governments and NGOs join forces in a specific platform to exchange knowledge, start joint projects, utilise funding opportunities and promote the sector. They also advise to better organise the chain of cultivation and processing of protein ingredients (scientists, cultivators, growers, processors). By improving security of sales and supply, cultivators and processors can better respond to the opportunities of a growing market. Finally, this study concludes that consumers should be better informed about the qualitative, ecological and health aspects of products in which animal proteins have been replaced by vegetable proteins.

Following this study, Flanders' FOOD, with support from VLAIO, included the theme of protein transition in its strategy as a spearhead cluster for the agri-food industry. The long-term strategy translates into the creation of a strategic research and innovation agenda (a research roadmap), and targeted funding and support for innovation projects that can make a contribution. This contribution may be in primary production (exploration, design and upscaling of novel and vegetable sources for food and feed), in processing (extraction, texturising and processing into concrete products) or in society (sustainability aspects, consumption patterns). The short-term strategy focuses on supporting companies and start-ups in developing concrete ideas.

2 THE POLICY FRAMEWORK

2.1 INTERNATIONAL AND EUROPEAN POLICY FRAMEWORK

In September 2015, the United Nations adopted the 2030 Agenda for Sustainable Development. This ambitious agenda outlines 17 Sustainable Development Goals (SDGs) and 169 targets that have been determined multilaterally from the bottom up and which are to be achieved by 2030. Agriculture and food are important connecting themes throughout the goals ([Stockholm Resilience Centre, 2016](#)). In order to achieve global sustainable development, it is of great importance to set up sustainable food systems worldwide ([World Economic Forum, 2018](#)). The development of a protein strategy contributes to 8 SDGs:



The challenges in the field of agriculture and nutrition are high on the European policy agenda as well. In its Food 2030 Policy Framework, the European Commission classifies the challenges into four priority themes:

- Nutrition for sustainable and healthy diets
- Climate smart and environmentally sustainable food systems
- Circularity and resource efficiency of food systems
- Innovation and empowering communities

Elements of the protein strategy are addressed in the four themes and are also part of the research agenda drawn up in the Flemish [Fit4Food2030](#) policy lab. In cooperation with knowledge actors and stakeholders, the Department of Economy, Science and Innovation and the Department of Agriculture and Fisheries have set out a course of action and priorities in this project for a research policy to make the Flemish food system *future-proof*.

Europe wants to make its protein supply more sustainable and reduce its import dependency. To this end, the European Commission has two important stepping stones: the new Common Agricultural Policy (CAP, 2021-2027)¹ and the Farm to Fork Strategy, which is an important component of the new European Green Deal.

With the Communication “The Future of Food and Farming”, the European Commission initiated in late 2017 a dialogue for a new Common Agricultural Policy (CAP) for the period 2021-2027. This policy should support agriculture and ensure its contribution to addressing current challenges. The sector should also respond to societal concerns. A Flemish CAP Strategy is currently being worked on. The new CAP can support the Flemish protein strategy through measures under various main lines. The current CAP also includes instruments that can support protein actions, such as the Flemish subsidy for the cultivation of leguminous crops.

In spring 2020, the European Commission launched an ambitious Farm to Fork Strategy - for a fair, healthy and environmentally-friendly food system. The strategy sets out objectives and formulates concrete actions for more sustainable production, consumption, processing and distribution of food. The European Commission also sees this broad approach as a response to COVID-19. The Farm to Fork Strategy works in tandem with the Biodiversity Strategy, which is also part of the European Green Deal. The new European agricultural policy is committed to the objectives of the Farm to Fork Strategy and the Biodiversity Strategy. Partly in support of the implementation of the Green Deal and the Farm to Fork Strategy, the new EU Framework Programme for Research and Innovation, Horizon Europe, places strong emphasis on the transformation of our food system.

With the development of the present strategy, Flanders is joining the frontrunners in Europe and aligns itself with the European policy objectives in terms of innovation and sustainability of protein supply.

2.2 FLEMISH POLICY FRAMEWORK

In the policy memorandum on agriculture and fisheries, Minister Crevits states the ambition of developing a protein policy on the basis of agricultural policy, which focuses on a broad and sustainable fulfilment of protein needs in Flanders, for both food and feed, within the framework of healthy and

[illegible]

high-quality food and feed. As far as consumers are concerned, one of the aims is to achieve a more balanced protein consumption. The investment policy offers opportunities to support chain renewal and chain innovation. ILVO assumes a proactive role in agricultural research in the area of protein diversification.

In the policy memorandum on economy, science and innovation, Minister Crevits wants to focus on the challenges in Flanders' primary sector. Technological developments, innovations, changes of scale, the anchoring of the agricultural and fisheries policy in an integrated food policy, and the transition towards a circular economy will help bring about the necessary structural transformation. In the context of a transversal innovation policy, an integrated food policy is backed by a broad and supported Flemish research agenda, which is also aligned with the European research agenda (Food 2030, Horizon Europe, etc.).

In the policy memorandum on environment and spatial planning, Minister Demir sets the goal of a sustainable and healthy food system, with a circular approach to the food chain. From her competences for environment and spatial planning, climate and energy, she supports the development of a circular food policy and prioritises a number of emphases. E.g. she wants to stimulate consumers in Flanders to make sustainable choices that take into account the ecological footprint. Behavioural insights, nudging and education are used within this context.

In the policy memorandum on welfare, public health, family and poverty reduction, Minister Beke wants to continue to focus on health and well-being in all policies. Within the framework of this preventive well-being and health policy, synergies are being forged with other policy areas within the Flemish administration. Within this framework the health objective 'De Vlaming leeft gezonder in 2025' (People in Flanders will live healthier in 2025) is given priority attention. By making the healthy choice the simplest one and stimulating sustainable food consumption, Minister Beke wants to work in a smart way towards sustainable health and well-being gains. He targets all citizens, and in particular vulnerable target groups.

Vision 2050, the long-term vision for Flanders, formulates an ambition for a future-proof and sustainable agri-food chain. To achieve this, the food system should look for integrated solutions, innovative value chains and system innovations.

The Government of Flanders has set itself the goal of developing a strong and integrated Flemish food policy. On World Food Day 2020, Minister Crevits called on everyone to help realise a Flemish food strategy. This strategy hinges on four strategic objectives:

1. Full commitment to a resilient food economy
2. Food connects farmers and citizens
3. Circular and sustainable businesses for the future
4. Healthy and sustainable food for all

The elaboration of a protein strategy from farm to fork is one of the action areas of the food strategy that extend beyond policy areas.

The protein strategy furthers the climate policy objectives. The Flemish Energy and Climate Plan 2021-2030 explicitly refers to the strategic objectives of this protein strategy and includes actions to reduce the climate impact of food production and consumption.

With this strategy, we also seek to contribute to a circular food system. In a circular model, farmers and food producers primarily use raw materials and waste streams from each other's chains. Food system losses are subsequently increasingly limited by using raw materials more efficiently, limiting nutrient losses and optimally valorising biomass (waste) streams. The action plan 'Food Loss and Biomass Waste Streams - Circular 2021-2025' aims to achieve a high-quality valorisation of biomass waste streams, including protein applications (e.g. insect-based bioconversion).

The recently launched [Bio-economy Policy Plan](#) also establishes links with a sustainable food system and the protein strategy.

2.3 PROTEIN STRATEGY AND THE RECOVERY

Although the COVID-19 crisis weighs on the agri-food sector, it has proven its resilience. With the recovery plan, the Government of Flanders wants to help strengthen the prosperity and well-being of people in Flanders after corona. At the same time, the economic recovery should contribute as much as possible to the decarbonisation of our economy and society. The plan was announced during the presentation of the September Declaration for 2020 by Minister-President Jan Jambon. The plan contains seven ambitions or spearheads. Under the heading of 'making the economy more sustainable', the Government of Flanders wants to further increase investments in innovation for, inter alia, agriculture and the broader food economy. The Government of Flanders wants to help achieve this in a practical manner by accelerating and enhancing its focus on a forward-looking and supported protein strategy.

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3 VISION

With a broad group of partners from the agri-food chain, knowledge institutes, the Flemish administration and other stakeholders, we want to realise a more sustainable, diverse and forward-looking protein supply by 2030. In addition, this strategy should help increase (EU) protein self-sufficiency. The strategy covers the entire chain from production through to consumption. This initiative fits into an agricultural, health, climate, environmental, raw materials and broader food policy and should offer clear gains in the fields of economy, entrepreneurship and innovation, the environment and climate, and health. The strategy is part of the Government of Flanders' recovery response to the COVID-19 crisis, and boosts both economic recovery and the development of new economic opportunities for all links in the agri-food chain.

We put forward 6 strategic themes and objectives in this strategy.

1. Sustainable animal feed: making protein sources for animal feed more sustainable
2. Sustainable animal production: making animal production more sustainable
3. More vegetable proteins: increasing vegetable protein production
4. More novel proteins: developing innovative protein sources
5. Greater product diversity: diversity in processing for diversity in supply
6. Sustainable protein consumption: balanced, healthy, diverse, environmentally responsible and local

A comprehensive approach is paramount. All types of proteins and protein products (animal and vegetable, innovative and conventional) are given due consideration within this strategy, given the importance of protein diversification to achieve the objectives.

Moreover, the strategy also encompasses the entire post-production chain, which is necessary to develop profitable chains and to subsequently arrive at earnings models for each link in the chain.

The strategy can only succeed if we also address the challenges and opportunities of protein consumption, with system innovation taking centre stage and each of the actors playing their role.

The levers for achieving this are policy, research and innovation, awareness-raising and mobilisation. Each of the partners will use one or several of these levers to reach the broad target audience throughout the agri-food chain.

The time horizon for this vision is set at 2030. The present strategy sets out the main lines for the coming years and will be evaluated in 2025 and adjusted if necessary.

4 STRATEGY: SIX STRATEGIC THEMES

The strategy indicates how we intend to realise the above vision. We explain the vision and objectives for each strategic theme. The objectives will be specified and quantified in a later phase.

4.1 SUSTAINABLE ANIMAL FEED

4.1.1 Vision

We want to make livestock feed streams more sustainable. The sustainability efforts of the last 10 years have already produced good results, but we want to increase sustainability even further. To that end we will build on three basic elements:

1. Gradually making animal feed streams more socially responsible
2. Valorising and promoting existing proteins of animal or vegetable origin, including animal meal, to a maximum extent
3. Reducing dependency on non-EU protein sources and adjusting food security with regard to EU protein sources.

European and, in particular, Flemish farmers, play an important role as producers of vegetable proteins (see also objective "More vegetable proteins") to achieve a larger degree of self-sufficiency in protein-rich animal feed to replace mainly imported soya. Farmers themselves should further explore these possibilities for producing their own protein-rich animal feed (field beans, peas, soya, clover-rich grasslands, mixed crops, etc.). These forage crops also potentially contribute to the circular economy (e.g. by using no or fewer fertilisers in leguminous crops), to healthy soils (e.g. by increasingly using crop rotation and crop diversification) and to more sustainable earnings models (e.g. by diversifying more and becoming less dependent on external inputs).

4.1.2 Objectives

We reiterate 4 relevant objectives from the [Charter](#) that was recently signed by BFA and Flemish Minister for Agriculture, Hilde Crevits. In this Charter, they jointly aim to reduce soya imports from non-EU countries and to diversify the use of alternative protein sources. A fifth objective, outside the compound feed sector and the Charter, also illustrates the importance of local protein cultivation.

1. Sustainable soya: By 2030, all soya used by Belgian animal feed manufacturers (60 % in 2022 and 75 % in 2025) shall meet the FEFAC Soy Sourcing Guidelines and FEFAC Deforestation Free criteria.
2. Circular feed: By 2030, 50 % of the raw materials used in the Belgian animal feed industry shall originate from side streams of the food and fuel industries.
3. Reducing the ecological footprint: By 2022, BFA shall offer all its members training on how to carry out life cycle assessments (LCA). This will enable them to map the impact of their raw materials and improve their approach to reducing their ecological footprint.

4. Reducing nitrogen (N) and phosphorus (P₂O₅) emissions: Every year, the BFA members shall produce minimum 3 million tonnes of feed for pig and poultry in line with the low-nutrient covenant (agreement with the Flemish administration).
5. More local production of sustainable protein-rich animal feed on Flemish soil that also plays an important ecological role with regard to soil use (see also objective "More vegetable proteins").

4.2 SUSTAINABLE ANIMAL PRODUCTION (MEAT, DAIRY AND EGGS)

4.2.1 Vision

The protein strategy offers opportunities for the Flemish livestock sector to respond to the demand for more local and diverse proteins, both for feed (raw material) and for human food (finished product). By focusing on the local (read: European) market with a differentiated product or production process livestock farmers can cater even better for this demand. This differentiation can be achieved at product level (e.g. extra quality, novel product, etc.), process level (e.g. organic, extensive, etc.) and marketing level (e.g. short chain, label, etc.). Through better cooperation with the other links in the chain, livestock farmers should also be able to get a fair price or profit margin for this.

This ambition in the area of proteins fits within the broader ambition to make the Flemish livestock sector and animal production (meat, dairy and eggs) in general more sustainable at ecological, economic and social level. The objective is, on the one hand, to make intensive livestock farming and animal production in general more sustainable and, on the other hand, to examine and support earnings models that work towards a fair income for farmers and respect the local and global ecological carrying capacity. For example, by giving local animal proteins with a story a place within the diverse range of proteins, they can also form a fully-fledged earnings model and a valid alternative to upscaling.

4.2.2 Objectives

We aim to make animal protein production in the broad sense more sustainable and extend sustainability monitoring to other sectors and additional themes.

We formulate answers to ecological challenges and are therefore focusing, among other things, on reducing the ecological impact of livestock farming, such as emissions and leaching. In doing so, we contribute to the policy objectives regarding climate, the environment, biodiversity and water.

In addition, we reinforce the positive effects of livestock farming on the environment and society by stimulating novel, sustainable earnings models and/or sales markets for local animal proteins or protein products. These earnings models may be new in terms of product (e.g. hybrid meat, local or sustainable feed, more grazing, etc.), production method (e.g. organic, extensive, etc.), ecosystem service provision (e.g. energy production, landscape maintenance, etc.) and/or marketing (sustainability label, short chain, etc.).

We seek to achieve a greater profit margin for livestock farmers through more and better cooperation in the chain. Local animal proteins with a story are a fully-fledged earnings model and a viable alternative to upscaling.

4.3 MORE VEGETABLE PROTEINS

4.3.1 Vision

Focussing increasingly on vegetable proteins is an indispensable link in making both livestock feed (see Sustainable Feed) and diets (see Sustainable Consumption) more sustainable.

We want to increase the availability of local (read: European) sustainably produced vegetable proteins for livestock feed in order to reduce import dependency on non-European countries. Farmers play a crucial role in this respect (see also above).

Moreover, the growing demand for vegetable proteins for human consumption also entails new opportunities for farmers to produce more protein-rich crops. Although these are much smaller volumes than for the production of livestock feed, these crops have a larger balance. This will also help increase the self-sufficiency rate which is currently low. The cultivation of protein crops can also contribute to the environment, as leguminous crops contribute to sustainable soil management. Through nitrogen fixation, the natural nitrogen cycle is activated, which reduces the need for energy-intensive nitrogen fertilisers. Leguminous crops also increase the soil carbon content. Farmers require proper guidance for this.

Profitable chains need to be developed in order to achieve an earnings model for each link in the chain. This means, among other things, that farmers will have to organise themselves to offer a sufficient volume of vegetable proteins to the processors. On the other hand, sufficient initiatives should be taken to ensure a guaranteed sale on the market. Promotion, cooperation between chain links and supply and demand matching play an important role in this respect. Novel circular value chains in the bio-based economy can also be developed to achieve full valorisation of the organic material.

4.3.2 Objectives

We want to increase the area used for vegetable proteins (both protein crops and oleaginous plants with vegetable proteins as by-product). We seek to significantly enlarge the area in Flanders by 2030 (currently at 27,000 ha). We want to stimulate the cultivation of protein crops in Flanders through research, consultancy and policy.

We focus strongly on the development of novel chains to offer sales security. We strive for circular value chains with full valorisation of the organic material and thus contribute to the further development of the bio-economy.

4.4 MORE NOVEL PROTEINS

4.4.1 Vision

We also want to integrate novel protein sources into our food, feed and bio-based economy. In addition to the conventional animal and vegetable protein sources, there are many interesting opportunities to be found in the cultivation of animal and microbial cells, algae, duckweed and fungi. These are non-soil-bound and can efficiently convert a whole range of carbon and nitrogen sources into high-quality proteins, including CO₂ and N₂ from the air. In addition, we also look at the consumption of 'lower' animal species, such as insects and molluscs, which may score better in terms of sustainability. Provided the necessary processing steps are carried out, proteins can also be extracted from biomass waste streams from the agri-food chain (e.g. non-consumable food waste streams) or other chains (e.g. waste from nature management).

The production of these novel protein sources still faces many unknowns and challenges in terms of cultivation, upscaling and efficiency, food safety and legislation. Research and policy coordination play a crucial role here. On the other hand, they also offer great potential in making animal production more sustainable by providing a good circular alternative to vegetable livestock feed. Profitable chains need to be developed in order to create earnings models for each link in the chain (see also 4.3).

Some of these protein sources contain valuable substances to be valorised other than proteins, such as oils, aromatics and flavourings, antioxidants and other bioactive components. Production may also release interesting side streams. By valorising this additional added value in bio-based value chains, earnings models around novel proteins will be profitable more quickly.

4.4. 2. Objectives

Flanders is to become a hotspot in the expertise, production and processing of novel protein sources (e.g. insects and algae) on the one hand and in novel applications of existing protein sources (e.g. through fermentation) on the other.

We seek to valorise protein sources in their entirety, as they often contain other valuable substances for the circular and bio-economy.

4.5 GREATER PRODUCT DIVERSITY: DIVERSITY IN PROCESSING FOR DIVERSITY IN SUPPLY

4.5.1 Vision

Protein sources are not always directly consumable products. They still require several processing steps, where by account is taken of nutritional, functional, taste- and texture-related aspects as well as food safety and environmental aspects.

On the one hand, there are the minimally processed products, which integrate the source into a tasty product in a fairly direct way. They have a similar protein content as animal-based products, even though they may be completely different as regards form, taste and/or texture. On the other hand, there are the 'analogues', in which the proteins are extracted from the source in pure form and can be further processed as ingredients in meat or dairy alternatives or hybrid products. Both are important to offer a diverse range of alternatives and hybrid products in shops and to cater for the needs of different consumer segments.

Preference is given to products with little processing, which are usually also more sustainable and healthier because they require less (high-tech) processing and additives. However, this should not prevent more highly (high-tech) processed products from being included in the supply. By carrying out an additional check in advance, potential health risks, such as the presence of allergens or an unfavourable nutritional profile, or other undesirable effects, can be avoided or limited.

When processing protein sources, waste streams are created that still have valuable content. In our strive for novel circular value chains with full valorisation of the organic material, we can use these streams to create novel bio-based value chains.

4.5.2 Objectives

We want shops to provide a wide range of tasty, safe and nutritionally high-quality protein-rich products, offering consumers sufficient choice between animal and non-animal sources.

4.6 SUSTAINABLE PROTEIN CONSUMPTION

4.6.1 Vision

We strive for a varied and balanced diet, which takes into account the health recommendations and has an acceptable ecological footprint. According to the food triangle, a varied and balanced diet is based on three principles that are underpinned by scientific literature:

- eat proportionally speaking more vegetable than animal-based food
- give preference to food with little or no processing
- do not waste food and moderate your consumption.

The holistic approach used to formulate dietary guidelines is also paramount as regards proteins. It is therefore necessary to place protein consumption within a broader nutritional context. The consumption of vegetable and alternative protein products, which are also good protein sources, have more health benefits than just the supply of proteins. Animal protein sources have a place within a varied and environmentally responsible diet. They are a source of high-quality proteins and other nutrients and represent a crucial link in a sustainable and circular food system.

Within the protein strategy, we strive for sustainable protein consumption in line with the 5Ps of the SDGs (planet, people, prosperity, partnership & peace). This includes the following options:

- Avoiding protein overconsumption or waste. Protein consumption among our population is generally too high.
- We aim for a shift in the ratio of animal and vegetable products/proteins in diets towards more vegetable products. The current ratio is not optimal in terms of health and the environment.
- We promote diversification in protein consumption in line with the diversification in the supply. All protein sources have a place in this. Preference is given to products with little or no processing. This also includes more highly processed or high-tech products. It is important to consider the impact of the method and degree of processing on the nutritional value of protein sources.
- We invariably prefer local protein sources to achieve a balanced diet, from the point of view of economic sustainability.

We take into account the specific protein and nutritional needs of certain target groups, such as children and older people.

Pursuing sustainable protein consumption implies a change in behaviour. Food consumption, or dietary behaviour, is a complex issue that is influenced by a multitude of actors and factors.

Naturally, consumers are key actors in this. Besides consumers, other actors in the food system play an important role in dietary behaviour. Changing dietary behaviour therefore requires a collective effort.

Clear information and recognisability are important preconditions for enabling consumers to make informed choices. Investments also need to be made in behavioural research and research into healthy and sustainable food environments. The better food choices should be the most obvious ones.

All this requires a strong and, above all, uniform communication strategy that also reinforces the progress of the other strategic objectives.

4.6.2 Objectives

The Flemish health objective from the strategic plan 'De Vlaming leeft gezonder in 2025' is intended to encourage the Flemish people to adopt a healthier and sustainable diet. The protein strategy has a place in the formulation of dietary guidelines and the broader nutritional story.

We set targets for a healthy, diverse, environmentally responsible and local protein consumption. This is done within the framework of the ongoing underpinning of the food triangle for environmental aspects. We translate the objectives into practical advisory opinions and action perspectives for consumers, while catering for the specific needs of certain target groups. Health education informs the different settings (citizens, households, leisure, schools, work, care and welfare, local authorities).

Within the context of the VLAM Local Food Charter, the agri-food chain is working together to promote local food, including as regards protein sources.

5 FUTURE TRAJECTORY, GOVERNANCE AND FOLLOW-UP

The strategy reflects the shared vision and ambition of the partners. It will be gradually implemented through concrete actions in 2021 within an agreed time frame.

February	Strategy launch
March - April	Preparation of action programme, fine-tuning of objectives
May - June	Agreements on monitoring of actions and objectives
Autumn	Start of roll-out and monitoring of action programme

The following governance will be provided:

- Steering committee chaired by Department of Agriculture and Fisheries
- Coordination with the broader Flemish administration via the Food Policy Network
- Alignment with wider research community via Platform for Agriculture and Food Research and Agrolink Flanders
- Alignment with Flanders' FOOD protein transition platform
- Stakeholder dialogue in cooperation with partners (annually, from 2022)
- Working groups at action or theme level will be set up whenever necessary

The following follow-up will be provided:

- Public action programme progress report (from 2022)
- Monitoring of strategy objectives (from 2022, frequency depends on available data sources)

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President of the
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