

TResearch

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'SUPER' BERRY
A new strawberry taking Ireland by storm



TEAM SPOTLIGHT
The benefits of white clover can't be ignored



FARMER HEALTH
The case for making healthier choices



**Irish horticulture:
The big picture
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Food for thought

The horticulture sector has a key role to play in delivering food security and nutrition to Ireland's people

SeaHealth

The benefits of seaweed for our gut

Researchers are studying seaweed to find out if its unique properties are beneficial for gut and metabolic health.



ypertension, type 2 diabetes and obesity are chronic diseases in middle- to high-income countries worldwide.

They are all classed as metabolic disorders, which means they stop the body from converting food into energy in the usual way and can increase our risk of getting high blood pressure. These disorders can be made worse by an imbalance of beneficial versus harmful bacteria in the gut – a condition called dysbiosis – which causes digestive problems that affect overall health.

Evidence shows, however, that these disorders may be improved by keeping our gut healthy through diet.

Teagasc is collaborating with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in Australia and CyberColloids in Ireland to screen Irish and Australian seaweeds for bioactives (chemicals that have a biological effect on our bodies) that may positively impact the human gut and metabolic health.

Studying seaweed

This project, titled SeaHealth, aims to produce new knowledge for industry experts and the scientific community on the potential functional food-use of certain seaweeds. It also aims to generate new technical know-how for the seaweed processing sector to develop high-value functional ingredients from raw seaweed. Seaweeds are a sustainable source of

bioactives and include some unique properties that don't occur in plants that grow on land.

In the SeaHealth study, chemical compounds will be taken from red, brown and green seaweeds using food-safe methods. They will then be studied for their ability to act as prebiotics (food ingredients for gut bacteria) and decrease the activity of enzymes (proteins in the body that increase the rate of chemical reactions).

The seaweed extracts that are found to have useful properties will be added to food products to improve health benefits. The researchers will be careful not to negatively impact the sensory elements of food – like taste and texture – during this process.

The seaweed extracts will then be assessed for use as functional ingredients, and also possibly as traditional protein-replacement products. The extracts will also be compared to existing pharmaceutical products that decrease enzyme activity and support gut health.

Sustainable research

When looking for potential functional food ingredients, researchers will use sustainable seaweed resources to minimise any environmental impact. This could help to generate growth, access new markets and increase value-added output for the seaweed processing and ingredients sectors.

Knowledge from the project could improve standard operating procedures



Consumer demand for natural and organic food products is driving major growth in the seaweed extracts market

for the isolation, extraction and stabilisation of high-value ingredients found within it.

At present there is major growth in the seaweed extracts market, and consumer demand for natural and organic food products is the main factor driving this. This could be boosted further by the development of new products that are beneficial to health. It could also provide different plant-based ingredients for growing market sectors, like veganism and vegetarianism, that are nutritionally balanced and may benefit the gut.

The project results will provide technical know-how and understanding of consumer attitudes to assist in further utilisation and development of functional food ingredients from raw seaweed. In addition, results could lead to further scientific and industrial research in this area on national and international levels. **T**



8.5%

From 2020-2027, the global seaweed extracts market is predicted to increase by 8.5%, of which the food industry will comprise the largest market segment.

Source: Data Bridge Market Research, 2021

Seaweeds are a source of bioactive compounds



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