

PATENT TRENDS ANALYSIS: FOCUS ON OAT AND GRAIN-BASED NUTRACEUTICALS

Analysis of recent patents indexed in FSTA covering the food science and nutraceutical sectors highlight significant trends in oat and grain-based innovations, especially in relation to bioactive compounds and functional foods. Key areas of interest include increased bioactive concentrations in grains, oat-based dietary supplements, and functional food formulations targeting health benefits like blood sugar regulation and cholesterol management.

COMPETITIVE MAPPING:

- PepsiCo owned **Quaker Oats Co.** is a prominent player, filing the highest number of patents over a 3-year period. They have a strong focus on functional ingredients, including bioactive compounds such as avenanthramides and beta-glucans. These bioactive compounds are linked to various health benefits, including heart health, antioxidant properties, and improved vascular function.
- Recent patents filed in the US and Europe involve innovations in oat-based products such as beverages, soluble oat flour, and oat bran, which are being developed to provide enhanced health benefits, including heart health, weight management, and cholesterol control.

HEALTH AND WELLNESS TRENDS:

- **Functional Foods:** A significant focus on the creation of nutraceutical products with added bioactives like avenanthramides, GABA, and other plant-derived compounds, indicating a trend towards functional foods that offer health benefits beyond basic nutrition.
- **Weight Management and Muscle Building:** Patents such as those involving solid food compositions for weight loss, muscle building, and diabetes management emphasise the ongoing demand for foods that address specific health concerns, especially in the context of chronic diseases like diabetes.
- **Gastrointestinal Health:** Ingredients like soluble fibres, prebiotics, and probiotics are being incorporated into various food products to support digestive health, as seen in the development of water-soluble fibre beverages and gut-health-targeted foods.

INNOVATIVE INGREDIENTS AND COMBINATIONS:

- **Oats as a Core Ingredient:** Oats continue to be a central ingredient in many of these innovations, often enhanced with additional bioactives or functional ingredients such as flaxseed, chia seeds, and various herbal extracts (e.g., saffron, cardamom, turmeric). This demonstrates the growing interest in the versatility of oats as a base for functional food products.
- **Herbal and Plant-Based Additives:** Many of the patents include combinations of herbal extracts and plant-based ingredients for specific health benefits, such as the combination of oats, saffron, flax seed, and pumpkin seed oil in beverages. This highlights the increasing use of plant-based ingredients in functional foods.
- **Vitamins and Mineral Fortification:** Products aimed at weight loss, muscle building, or managing chronic conditions like diabetes often include added vitamins and minerals for further health optimization, a trend towards personalised and targeted nutrition.

SPECIFIC HEALTH BENEFITS:

- **Cholesterol Management:** Several patents focus on formulations aimed at managing cholesterol levels without using traditional statin drugs, indicating a growing market for natural, plant-based solutions in cardiovascular health.
- **Blood Glucose Regulation:** The development of products, like cereal bars and beverages, specifically designed to prevent spikes in blood glucose levels highlights a significant market trend in diabetes and blood sugar management.
- **Antioxidant and Anti-Inflammatory Effects:** Bioactives like avenanthramides, as well as the use of saffron and other herbs, are tied to antioxidant and anti-inflammatory effects, emphasizing the importance of these benefits in functional foods.

EMERGING MARKETS AND FOCUS ON SOLUBLE AND WHOLE GRAINS:

- There is a clear trend towards the development of food products that incorporate whole grains, particularly oats, in their most soluble and bioactive-enhanced forms. This approach is being applied across a range of product categories, including beverages, bars, and even solid food compositions designed to provide time-released energy.



KEY TAKEAWAYS:

- **Oat-based Products:** Companies like Quaker Oats are focusing heavily on creating products derived from oats, often enhanced with bioactives like avenanthramides, beta-glucans, and additional herbs and plant extracts.
- **Functional Ingredients for Specific Health Needs:** Innovations in weight loss, muscle building, blood glucose regulation, and cholesterol management are a clear focus.
- **Growth in Health-Conscious Consumers:** There is an increased emphasis on creating foods that not only provide nutrition but also offer tangible health benefits, particularly through natural ingredients and fortification with vitamins, minerals, and bioactives.