



AQUAFABA

THE NEW STAR IN VEGAN FOOD INDUSTRY

A fairly novel concept, aquafaba is a healthy alternative for egg and has enormous potential for food innovators as a new ingredient in baked food, dressings, sauces and savory. Recently, certain food producers managed to standardize aquafaba in terms of whipping as well as emulsifying, making it a usable product for processing industries. Latin for "bean water," aquafaba is the viscous excess water or brine strained from cans of cooked legumes. The most popular variety is chickpea water.

The discovery of aquafaba is credited to musician Joël Roessel and vegan food enthusiast Goose Wohlt. Roessel found the leftover water from canned beans could be whipped into foam, much like protein isolates and flax mucilage, and wrote a blog on it adding his personal recipes. Meanwhile, Wohlt discovered aquafaba during an experiment to create eggless meringues. He realized liquid from garbanzo beans, or chickpeas, could replace egg white, thus inventing a way to create eggless foam. This miracle ingredient with its many functional properties is gaining popularity with chefs and food processing manufacturers.

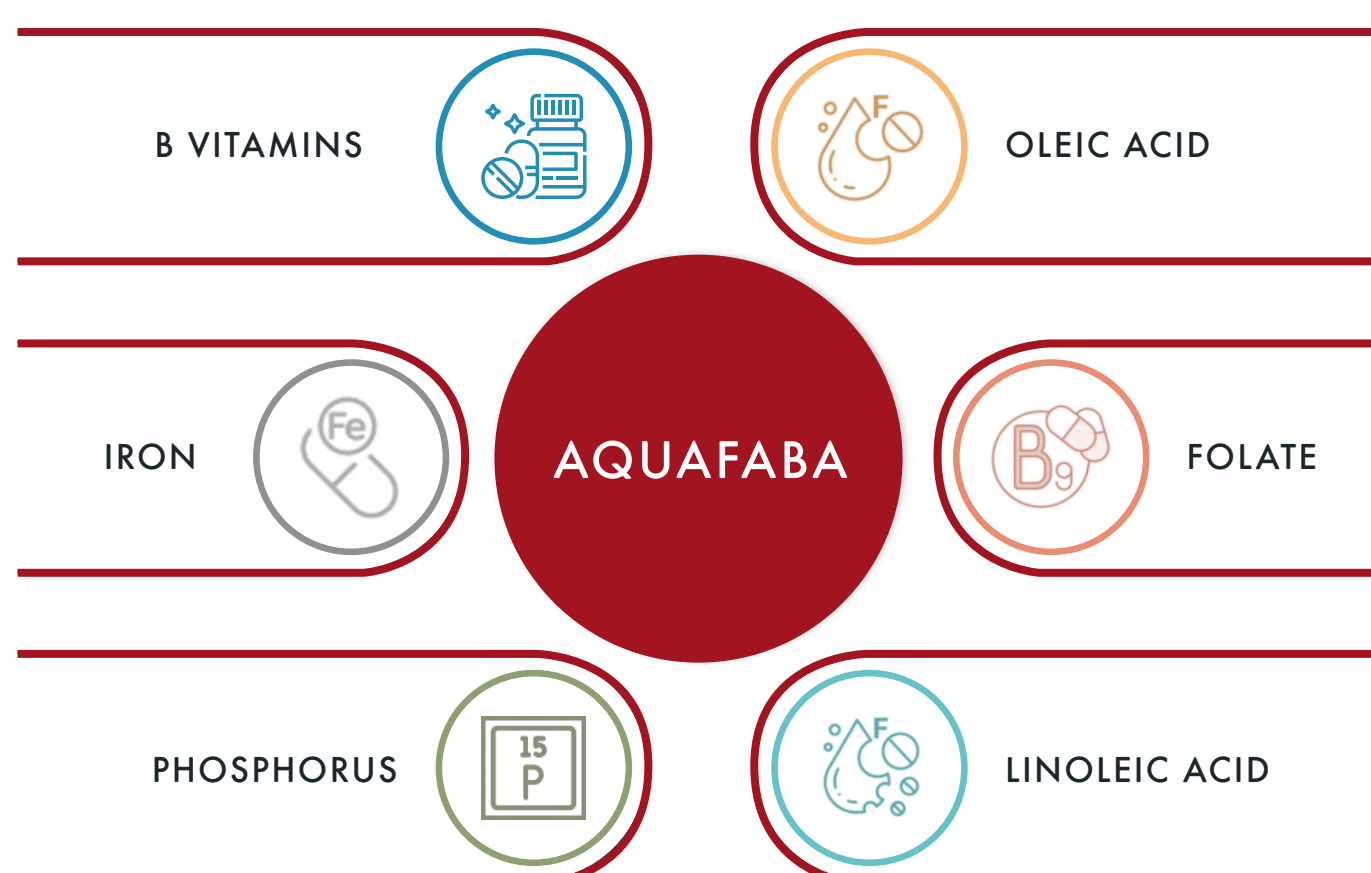
NEW INGREDIENT FOR FOOD AND BEVERAGE INDUSTRY

The food industry constantly seeks new and interesting ingredients that could create better, functional, and healthy products. Furthermore, the rise of veganism has led to research for plant-based substitutes for all animal-based products such as meat, eggs, and milk. Aquafaba has emerged as a cost-efficient, gluten-free and vegan alternative of egg. Aquafaba can form stable edible foam and emulsion with functional properties such as those of whole egg and egg white.

It is a great option for vegans as well as people suffering from egg allergies as they can relish dishes such as meringue, mousse, mayonnaise, ice creams, desserts, omelets, macaroons, and cream cakes. It is also making its place on bar shelves as a cocktail mixer. It adds to the taste of the cocktail and works as an ideal emulsifier.



AQUAFABA HAS SEVERAL HEALTH BENEFITS AS WELL. IT CONTAINS CARBOHYDRATES, PROTEINS, VITAMINS, AND MINERALS SUCH AS THE FOLLOWING:



Source - Aquafaba: What Is It and What Are the Health Benefits? [webmd.com]

CHARACTERISTICS

While aquafaba is a brilliant option for vegan cooks and food processors, it does have its set of challenges. However, an experienced food technologist can easily tackle these issues:

- **Smell** – Chickpea water has a distinctive smell initially, but it mellows down once mixed with other flavors and raw materials. The final product remains free of smell.
- **Taste** – The taste of aquafaba is neutralized during the cooking process. It performs its function well and its taste vanishes in the final product.
- **Usage** – Whipped aquafaba's performance depends on the product application and production process. Research and studies show aquafaba can be used to create clean label products with satisfying results.
- **Measurements** – The product type decides the amount of aquafaba that can be used. Usually, a test run is done before processing a large batch of food products using aquafaba.



AN "EGG-CELLENT" INGREDIENT IN VEGAN FOOD

Baked products	Non-dairy products	Dressings and sauces	Savory
Pavlova	Cheesecakes	Mayonnaise	Omelets
Meringue pie	Ice cream	Caesar dressing	Crepes
Mousse	Butter and cheese	Hummus	Frittata
Brownies		High moisture sauce	Pot pies

A REPLACEMENT FOR EGG?

While aquafaba can replace eggs in baked delicacies, it does not have all the properties of a hen's egg. A regular egg can be fried or scrambled, but the same cannot be done with aquafaba. When a regular egg is cooked, the crosslinking of aquafaba allows it to change its form and taste. However, aquafaba does not have enough proteins to conduct the same process.

Furthermore, while aquafaba has many other nutrients, it has a narrower range of proteins like any other plant-based alternative. Hence, to achieve the same protein profile as an animal product, it has to be mixed with different plant proteins.



OUTLOOK

As the concept of veganism becomes increasingly popular, the demand for plant-based protein as a possible substitute for animal protein is increasing. Furthermore, modern consumers are inclined toward sustainable, environment-friendly, and healthy products. The food ingredient industry is equipped to fulfill such requirements.

As a plant-based substitute for eggs, aquafaba has caught the attention of food scientists. Researchers from the Department of Food Science and NEXUS A/S studied this new ingredient's functional properties to understand how a plant-based by-product can match a known food such as egg white.

They conducted a foam test and found that egg white had significantly greater foaming capacity than aquafaba. However, aquafaba foam remains stable to changes in pH value or salt content unlike egg white.

The proteins present in aquafaba are better in taking in water and oil to bind together and are better emulsion agents. Moreover, these properties are not affected by an altered salt content.

CONCLUSION

Due to its various functional properties, aquafaba can function as an emulsifier as well as a foaming agent. It may not replace eggs completely, but it does provide an option to those who seek an alternative. It is currently used in baked products, non-dairy products, dressings, sauces, and savory. In fact, it has been successfully used to make omelets, frittatas, crêpes, and vegetable broth. Therefore, if you have not added aquafaba to your list of available ingredients, the time to do it is now.

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