Watermeal and Azolla are both small, free-floating aquatic plants, but they differ in their classification and characteristics. Watermeal (Wolffia) is a flowering plant (angiosperm), while Azolla is a fern (pteridophyte) . Watermeal is known for its tiny, seed-like appearance, while Azolla forms larger, reddish-brown colonies.

UNIVERSITY PARK, Pa. — An often-overlooked water plant that can double its biomass in two days, capture nitrogen from the air — making it a valuable green fertilizer — and be fed to poultry and livestock could serve as life-saving food for humans in the event of a catastrophe or disaster, a new study led by Penn State researchers suggests.

Native to the eastern U.S., the plant, azolla caroliniana Willd — commonly known as Carolina azolla — also could ease food insecurity in the near future, according to findings recently published in [Food Science & Nutrition](https://onlinelibrary.wiley.com/doi/10.1002/fsn3.3904). The researchers found that the Carolina strain of azolla is more digestible and nutritious for humans than azolla varieties that grow in the wild and also are cultivated in Asia and Africa for livestock feed.

For more information see <https://www.psu.edu/news/research/story/common-plant-could-help-reduce-food-insecurity-researchers-find>

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Watermeal (Wolffia spp.) holds significant potential as a food source, particularly in addressing issues like famine due to its remarkable nutritional profile and ease of cultivatio

**Nutritional Advantages:**

* **High Protein Content:** Watermeal is recognized for its high protein content, reportedly containing around 40% protein by dry weight in some varieties. This makes it a valuable plant-based protein source for those in need, [according to greg.app](https://greg.app/watermeal-edible/).
* **Rich in Essential Nutrients:** Besides protein, watermeal is packed with other essential nutrients, including dietary fiber, essential amino acids, B vitamins (including a rare plant-based source of Vitamin B12), Vitamin C, calcium, iron, and potassium. These can help combat malnutrition and support overall health during times of scarcity.
* **Omega-3 Fatty Acids:** Watermeal contains a notable amount of omega-3 fatty acids, which are crucial for maintaining cardiovascular health and reducing inflammation.
* **Antioxidant Properties:** Watermeal contains bioactive compounds like tocopherols, γ-oryzanol, phenolic acids, and flavonoids, which contribute to its antioxidant activity. These antioxidants can help protect against cellular damage and may reduce the risk of chronic diseases.

**Potential in Famine Relief:**

* **Rapid Growth Rate:** Watermeal's ability to quickly reproduce and grow under favorable conditions makes it a promising source for rapid food production.
* **Sustainable Cultivation:** Cultivating watermeal generally requires less land and water compared to traditional crops and livestock, making it a sustainable option for food production, especially in areas with limited resources.
* **Versatile Culinary Use:** Watermeal can be incorporated into various food products like smoothies, soups, and health bars, making it adaptable for different dietary needs and preferences.

**Considerations:**

* **Contamination Risks:** Watermeal can absorb pollutants from its environment, making it crucial to cultivate or harvest it from clean, unpolluted water sources to ensure safety for human consumption.
* **Allergic Reactions:** As with any new food, some individuals may experience allergic reactions to watermeal, so it's advisable to exercise caution and consult a healthcare professional, especially for those with known allergies to aquatic plants or compromised immune systems.
* **Balancing Diets:** While watermeal is highly nutritious, it may not provide a complete balance of essential amino acids on its own, so it may need to be combined with other protein sources for optimal nutrition, [according to MDPI](https://www.mdpi.com/2311-7524/10/11/1171).

**In summary, watermeal's exceptional nutritional profile, rapid growth rate, and sustainable cultivation make it a promising food source with the potential to play a crucial role in addressing famine and global food insecurity, particularly as a sustainable plant-based protein alternative**. However, it's essential to ensure safe cultivation and consumption practices.

For more information see <https://www.foodrepublic.com/1334769/worlds-smallest-fruit-stunningly-nutritious/>