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Nutritional value, uses and importance of Niger crop

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Niger seeds are a nutrient-dense oilseed, rich in healthy fats (especially linoleic acid), protein, fiber, minerals (calcium, magnesium, zinc, potassium, iron), antioxidants, and vitamins (K, E), offering benefits for heart health and energy, while the seeds and oil are used in food (chutneys, spices), animal feed (birdseed), cosmetics, paints, and even biodiesel, making it crucial for tribal economies and soil conservation.

Nutritional values (per 100g, approximate)

Calories: ~515 kcal

Fat: ~39g (rich in unsaturated fatty acids like linoleic acid)

Protein: ~24g (high quality, digestible)

Fiber: ~11g (high crude fiber)

Minerals: High in Calcium, Magnesium, Zinc, Potassium, Iron, Phosphorus

Vitamins: Source of Vitamin K, Tocopherols (Vitamin E), Beta-carotene

Other: Antioxidants, Sterols, Phytosterols

Uses of niger crop

Culinary: Used in chutneys, spices for curries, salads, cereals, baking.

Oil extraction: Used for cooking, soap making, cosmetics, paints, lubricants, and biodiesel.

Animal feed: Popular birdseed for finches and other birds; high protein for livestock.

Medicinal/therapeutic: Potential for treating ailments like rheumatoid arthritis due to antioxidants and fatty acids.

Industrial: Base oil in perfumes, agar medium for brain ailments.

Importance and uses of niger crop

Nutritional security: Fights malnutrition and anemia due to high protein, iron, and micronutrients.

Economic: Vital for tribal agriculture and economies in India, providing income from oil and seeds.

Agronomic: Tolerant to pests/diseases, grows on poor soils, good for soil conservation, ideal for rainfed areas.

Ecological: Attracts birds, supports biodiversity, valuable as winter bird food for energy.

Key nutritional highlights

- **High Oil content:** Niger seeds are particularly known for their oil content, which typically ranges from 30-40%. The oil is rich in unsaturated fatty acids, primarily linoleic acid (an omega-6 essential fatty acid).
- **Protein source:** The seeds offer a significant amount of protein, making the press cake remaining after oil extraction a valuable livestock feed.
- **Mineral rich:** The crop is an excellent source of essential macro and micro-minerals, including a particularly high amount of phosphorus and iron.

The nutritional values of the niger crop (seeds) vary by variety and growing conditions, but

generally, they are a rich source of fat, protein, and essential minerals.

Below are the typical nutritional values for raw niger seeds per 100g serving

Component	Approximate Value	Unit
Proximate Composition		
Energy	480–527	Kcal
Fat	30–44	g
Protein	10–25	g
Carbohydrates	11–32	g
Fiber	11–26	g
Moisture	2–5	g
Ash	1–5	g
Key Minerals		
Phosphorus (P)	660–867	mg
Potassium (K)	610–809	mg
Calcium (Ca)	370–470	mg
Magnesium (Mg)	260–353	mg
Iron (Fe)	5.6–13.7	mg
Zinc (Zn)	3.5–4.0	mg
Manganese (Mn)	1.0–7.4	mg
Copper (Cu)	~1.0	mg
Sodium (Na)	1.6–5.0	mg
Selenium (Se)	0.1–0.3	mg
Vitamins		
Thiamine (B1)	~0.43	mg
Riboflavin (B2)	0.22–0.55	mg
Niacin (B3)	~3.66	mg
Vitamin C	Varies (rich source)	mg
Vitamin E	60–79	mg