AGRI MAGAZINE
(International E-Magazine for Agricultural Articles)
Volume: 03, Issue: 04 (April, 2026)
Available online at http://www.agrimagazine.in
©Agri Magazine, ISSN: 3048-8656

Healing the Earth: A 45-Day 'Multi-Grain Miracle' is Restoring Our Farmlands

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For decades, our fields have weathered the heavy toll of chemical fertilizers, leaving the soil tired, compacted, and depleted. But across the vibrant landscapes of Tamil Nadu, a traditional wisdom known as *Pala dhaniya vidhaipu* is staged for a massive comeback. By sowing a diverse "cocktail" of over 20 grains, pulses, and oilseeds, farmers aren't just planting a crop but they are performing a biological rescue mission. In just seven weeks, this green explosion breathes life back into the dirt, transforming damaged ground into a thriving, nutrient-rich foundation for natural farming. In this method, more than 20 types of seeds, including grains, pulses, oilseeds, and aromatic crops, are mixed and sown at the rate of 20 kg per acre. After 6–7 weeks, or when the crops begin to flower around 45 days after sowing, they are ploughed back into the soil and allowed to decompose for 10 days to improve soil fertility.

Seeds used for multi grain sowing

The Multi-grain sowing technique typically uses a balanced mix of 20 to 25 varieties of seeds. These are generally categorized into five main groups to ensure a comprehensive range of nutrients and organic matter is returned to the soil. While the specific seeds can vary by region and availability, a standard 20 kg per acre mix often includes the following:

Quantity of seeds required for multi grain sowing

Category	Seed Variety (English / Tamil)	Weight (in grams)
I. Millets & Grains	Sorghum (Cholam)	1,000 g
	Pearl Millet (Kambu)	500 g
	Foxtail Millet (Thinai)	250 g
	Little Millet (Saamai)	250 g
	Barnyard Millet (Kudiraivalli)	250 g
II. Pulses & Legumes	Black Gram (Ulundu)	1,000 g
	Green Gram (Paasi Payaru)	1,000 g
	Cowpea (Thattai Payaru)	1,000 g
	Pigeon Pea (Thuvarai)	1,000 g
	Chickpea (Kondai Kadalai)	1,000 g
	Field Bean (Mochai)	1,000 g
	Horse Gram (Kollu)	1,000 g
III. Oilseeds	Groundnut (Verkadalai)	2,000 g
	Gingelly/Sesame (Ellu)	500 g
	Castor (Aamanakku)	500 g

	Sunflower (Sooryakanthi)	250 g
IV. Aromatic & Spices	Coriander (Kothamalli/Dhanya)	1,000 g
	Mustard (Kadugu)	500 g
	Fenugreek (Vendhayam)	500 g
V. Green Manure	Sunn Hemp (Sanappai)	3,000 g
	Sesbania (Dhaincha/Thakkai Poondu)	3,000 g
Total Weight		**20,000 g (20 kg)**

This 20 kg mix is designed for exactly **one acre** of land. Farmers can also include **Maize** (Makkacholam) or **Finger Millet** (Ragi) depending on local availability, but the goal is always a diverse mix of five distinct crop types. Farmers often adjust these quantities based on local soil conditions; for instance, adding more nitrogen-fixing pulses if the soil is severely depleted. These five categories of seeds should be mixed and sown together in the field at the same time. The crops grown from these seeds will begin flowering in 45 to 50 days. At that stage, the plants should be folded down and ploughed into the soil. They will decompose and increase microbial activity in the soil. The nutrients obtained through this method will be balanced. This multi-grain sowing method can be repeated 2 or 3 times.

Time of sowing

In Tamil Nadu, the best time to start the multi-grain sowing process is immediately after the first monsoon showers, typically during the April or June (Chithirai or Adi) seasons. Sowing during this time ensures that there is enough soil moisture for the high density of seeds (20 kg/acre) to germinate quickly and produce the maximum amount of green biomass before being ploughed back in.

Recommended Sowing Time

- **Adi Pattam (June – July):** The most popular window across Tamil Nadu. This period allows the 45-day growth cycle to conclude just before the heavy North-East monsoon, preparing the land for late-year main crops like paddy.
- **Thai Pattam (January – February):** Ideal for farmers planning to grow summer crops. The multi-grain mix is sown in early summer and ploughed back before the peak heat, enriching the soil for the next cycle.
- **Chithirai Pattam (April – May):** Best for areas with good irrigation or early "summer rains." This window is specifically effective for growing high-biomass green manures like Sunn Hemp or Dhaincha.

Important considerations for good results

- **Pre main crop:** Farmers begin the "Pala dhaniya vidhaipu" process 60 days prior to their main season. This window perfectly balances a 45-day growth cycle with a critical 10-to-15-day decomposition phase.
- **Before flowering:** Precision is important in choosing the time to plough the biomass into the soil. It should be incorporated into the soil at the very onset of flowering. This prevents the stalks from becoming lignified (woody), ensuring the biomass remains soft enough for rapid breakdown.
- **Moisture requirement:** Decomposition is a living process. Maintaining steady soil moisture for 10 days post-ploughing is non-negotiable; it provides the perfect environment for beneficial bacteria to unlock the nutrients trapped within the green manure.

Integrating these five categories creates a "complete diet" for your soil. Each group plays a specific biological role to reverse chemical damage and restore natural fertility.

Soil Benefits

Category	Key Benefit	How it Works
Millets & Grains	Biomass & Structure	These grow tall and fast, providing massive amounts of carbon-rich organic matter. Their fibrous roots break up compacted soil, improving aeration.
Pulses & Legumes	Nitrogen Fixation	Bacteria (*Rhizobium*) in their root nodules grab nitrogen from the air and "fix" it into the soil, acting as a free, natural urea replacement.
Oilseeds	Deep Nutrients	Varieties like Castor and Tap-rooted Sunflower go deep into the subsoil to pull up minerals that surface-level crops can't reach.
Aromatic & Spices	Pest Management	Crops like Mustard and Coriander release natural compounds (volatile oils) that suppress soil-borne pathogens and harmful nematodes.
Green Manure	Rapid Decomposition	Sunn Hemp and Dhaincha are extremely succulent. When ploughed in, they rot quickly, feeding the "good" soil microbes and earthworms instantly.

The "Synergy" Effect

When ploughed into soil after 45 days, the nitrogen from the pulses helps the carbon from the millets to decompose faster. This creates humus, which acts like a sponge, allowing your soil to hold significantly more water during dry spells.

Advantages of multi grain sowing

Soil Fertility Improvement

- **Reverses Chemical Damage:** It is highly effective in restoring land that has lost fertility due to continuous chemical fertilizer use.
- **Natural Fertilizer**: The decomposition of diverse plant roots and biomass adds organic carbon, nitrogen, phosphorus, and potassium back into the soil.
- **Increased Nutrients:** Green manure crops like Daincha (Takkapundu) and Sunn hemp (Sanappu) added to the mix provide crucial nitrogen fixation.

Enhanced Soil Structure

- **Improves Soil Texture**: The diverse root systems (deep roots from some, shallow from others) break up hard soil pans, improving aeration and water infiltration.
- **Boosts Microbes**: The mixture of seeds encourages the growth of beneficial microorganisms in the soil.

Pest and Weed Management

- **Reduces Weed Growth**: By covering the ground completely, the crops act as a living mulch, suppressing weed growth.
- **Natural Pest Management**: The diverse ecosystem attracts beneficial insects and acts as a trap crop to reduce pests.

Sustainability and Yield Management

- **Water-Efficient:** It is an effective method for dryland farming, as these crops can survive with limited water.
- **High Yields**: When practiced (e.g., in rice farming) and ploughed back into the soil after 45-60 days, it significantly boosts the organic matter content, leading to higher yields for the main crop.

Government schemes

National Food Security Mission (NFSM): Provides subsidies for specific components of the multi-grain mix, such as pulses and oilseeds.

- **Pulses:** Subsidies ranging from **₹25 to ₹50 per kg** depending on the variety and age.

- **Oilseeds:** Certified seeds for crops like sesame and groundnut are available at **50% of the cost**.

Green Manure Seed Distribution (CMMKMKS): For the 2024–2025 period, the government allocated ₹20 crore to distribute **4,000 tonnes** of green manure seeds (like *Dhaincha* and *Sunn Hemp*).Farmers can receive up to **20 kg of seeds per acre** at a **50% subsidy**.

Conclusion

Adopting multigrain sowing is more than just a pre-season task; it is a commitment to the long-term health of your land. By following the 60-day rhythm, respecting the flowering window, and keeping the soil hydrated, you transition from being a consumer of chemical inputs to a steward of a living ecosystem. This traditional multi-grain technique proves that when we feed the soil a diverse and natural diet, it rewards us with resilience, water retention, and abundant yields. As you move into your main cropping season, you do so with the confidence that your foundation is not just dirt, but a thriving, fertile legacy ready to sustain generations to come.