



Harnessing Natural Farming for Product Development and Crop Diversification

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INTRODUCTION



1. Farmers Detail

Name: Mr. Deependra Dubey

2. **Date of Birth:** 05/12/1986

3. **Education:** IT Graduate, MBA (Finance)

4. **Cell no./ e-mail:** 9955819323

5. **Full address:** Village- Diulia, ward no. 24,
Block-Narkatiaganj, West Champaran, Bihar

2. Uniqueness of Work related to Natural farming

The farmer practices **Agnihotra (Homa farming)**, a traditional Vedic ritual described in *Vriksha Ayurveda* and historically performed by sages. In this process, unbroken rice grains, cow dung from indigenous breeds, and clarified butter (ghee) derived from indigenous cow milk are used as offerings. A fire is kindled using dried cow dung cakes, into which the prepared mixture is placed during sunrise and sunset, accompanied by specific Vedic mantras for each time. The combustion process produces ash that is believed to retain cosmic energy and has been reported to enhance the proliferation of beneficial soil microorganisms, thereby contributing to soil health and fertility.

3. Major practices of NF adopted: Details

- **Crops:** Paddy, Wheat, Sugarcane, Barley, Mustard, Linseed, Chickpea, rajma, Greengram, Lentil
- **Horticulture:** Cucurbits, Solanaceous crops, Cole crops, Mango
- **Intercropping:** Sugarcane and Pea
- **Mulching:** Dried plant leaves, Plant roots, Sugarcane trash
- **VAPASA:** Yes
- **Integration of animals:** Desi cow (Gir, Sahiwal, Red Sindhi)

4. Details of area renovation center developed at farm:

An **Area Renovation Center** has been developed on 1.5 acres of farmland with the objective of demonstrating scientific crop diversification and sustainable farming practices. The major crops cultivated in this unit are **Pointed Gourd, Brinjal, and Onion**, chosen for their market demand and suitability to the local climate. Pointed gourd has been established using quality planting material to ensure higher productivity, while improved brinjal varieties with resistance to common pests and diseases have been planted to minimize chemical use. Onion has been included to promote diversification and provide steady market returns. The entire area has been systematically laid out to ensure **optimum land utilization**, with emphasis on **crop rotation and integrated nutrient management** for maintaining soil fertility. Organic manures and bio-fertilizers are applied to enrich the soil, while irrigation facilities support assured crop growth. For plant protection, **bio-pesticides** such as *Neemastra* and *Brahmastra* are being used, reducing dependence on synthetic chemicals. The

center highlights **low-cost and eco-friendly farming practices**, making it a model for sustainable production. It also serves as a **demonstration site for farmers**, where neighboring cultivators can observe, learn, and replicate scientific techniques in their own fields. Overall, this initiative showcases how a small piece of land, when managed scientifically, can become **profitable, sustainable, and farmer-friendly**.

5. Methodology of preparation of concoctions/bio-inputs /bio-pesticides

Mr. Dubey regularly prepares a range of **bio-formulations** aimed at enhancing plant growth and soil health. These include *Jeevamrit*, *Ghanjeevamrit*, *Beejamrit*, and bioenzyme mixtures (sweet, sour, and bitter types), which serve as natural growth promoters and soil microbial stimulants. In addition, for crop protection, he develops and applies traditional **biopesticides** such as *Neemastra*, *Brahmastra*, *Agniastra*, and *Sauthastra*, which are derived from locally available natural resources and are effective against a wide spectrum of insect pests and diseases.

6. Marketing Strategy of Production

A significant portion of the farm produce is purchased directly by buyers who frequently visit the farm, ensuring farm-to-consumer linkage and better price realization for the farmer. This direct marketing approach not only builds trust and transparency but also minimizes the role of intermediaries. The remaining produce is systematically channelized to the local markets, where it is sold to meet the demand of nearby consumers. Such a dual marketing strategy-direct sales at the farm gate and supply to local markets-ensures wider outreach, steady income, and enhanced visibility of natural farm products.

7. Economic Analyses

Source of income	Net income in Rs.		
	2022	2023	2024
Open Field Cultivation**	3,71,000	3,95,000	4,84,000
Total	3,71,000	3,95,000	4,84,000

** include crops Sugarcane, Pointed gourd, Brinjal, Onion, Paddy, barley and Wheat

8. Influence on other farmers

Natural farming not only benefits the individual practitioner but also creates a strong positive effect among the neighboring farmers. Farmers adopting natural farming practices become role models in their communities by showcasing reduced production costs, improved soil health, better quality and chemical free produce. Their success stories motivate other farmers to experiment with similar techniques, gradually leading to wider acceptance and adoption of natural farming. Nearby farmers use to visit the natural farming farm of Mr. Dubey and learn formulation techniques of biopesticides. Such peer-to-peer learning and demonstration-based influence play a crucial role in transforming conventional practices towards more sustainable and eco-friendly farming systems.

9. Impact

The adoption of natural farming significantly influences farmers' livelihoods by strengthening both food security and food safety. Unlike conventional farming, which often depends on costly chemical fertilizers and pesticides, natural farming reduces external input costs, thereby improving household economic stability and lowering the risk of indebtedness. The practice also enhances the farmers net income as the input cost of fertilizers and chemical pesticides is negligible. From the perspective of food security, diversified cropping systems under natural farming enhance resilience against

climatic variability, ensuring a continuous supply of food grains, pulses, vegetables, and fruits for family consumption. Mr. Dubey practices diversified farming including a chain of crops like Sugarcane, Pointed gourd, Brinjal, Onion, Paddy, Barley Moong, Pea, Mustard, Wheat etc. In contrast, conventional farming systems, being input-intensive and monoculture-oriented, are more vulnerable to market fluctuations and environmental stresses. Furthermore, natural farming guarantees the availability of safe and chemical-free food, contributing to improved nutrition and better health outcomes for farm families, whereas conventional produce frequently raises concerns about chemical residues and long-term health risks. Thus, natural farming not only secures farmers' subsistence needs but also promotes sustainable livelihoods by integrating economic viability, ecological balance, and safe food production.

10. How KVK can help in promotion of NF

Krishi Vigyan Kendra holds a crucial mandate in the dissemination and upscaling of natural farming practices. By conducting structured capacity-building programs, methodical frontline demonstrations, and systematic awareness campaigns, KVKs serve as effective platforms for farmer education. KVK Narkatiyaganj has developed natural farming demonstration unit at its premises and technical guidance regarding natural farming is imparted to farmers. Through its role as an interface between research institutions and farming communities, KVK significantly accelerates the adoption of sustainable natural farming systems.”

