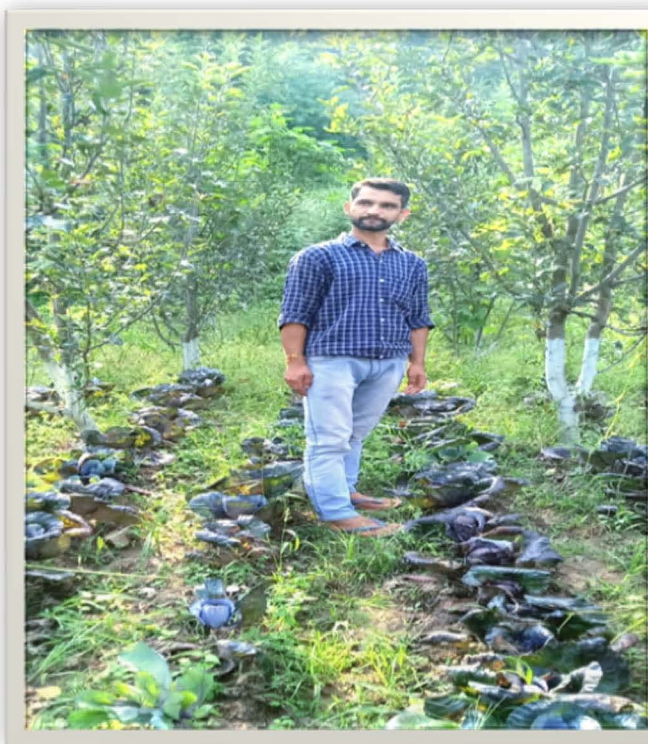


CASE STUDY ON SOIL HEALTH MANAGEMENT



Purandev Thakur

Sodadhayari Village,
G.P. Neri Nawan,
Block – Pachhad
State- Himachal Pradesh

Sources of Income:

Largely Vegetables and Apple Cultivation

Economic Impact:

Reduced Chemical Pesticides Uses, Fertilisers,
Labor and Machinery costs. Reduced fertility
expense from livestock manure.

Area:

10 Bigha (1.6 Acres)

Soil Health Management Practices:

Soil Testing, Organic Farming, Organic Mulches.

Background

Purandev grew up in the village of Sodhayari, where water availability is very low both in cropland and pastureland. His community has a population of 250 people and is made up of 90 families. He's considered a modest farmer. His family's annual income is Rs. 4 lakhs. According to him, our environment is being polluted, and soil health is deteriorating as a result of the use of inorganic pesticides and fertilisers. Due to which the health of the people is also being harmed. The groundwater level is also depleting day by day. He claims that effective soil health management, including soil testing, organic farming, and organic mulching, may help to maintain soil health, fertility, human health, and the environment in good shape. He has received widespread acclaim from universities and resource institutions for his work in facilitating district-level training. He now farms with his brother, and together they have transitioned their farm into a regenerative operation, applying many of the soil health principles in their fields.

CASE STUDY ON SOIL HEALTH MANAGEMENT

Soil Health Test

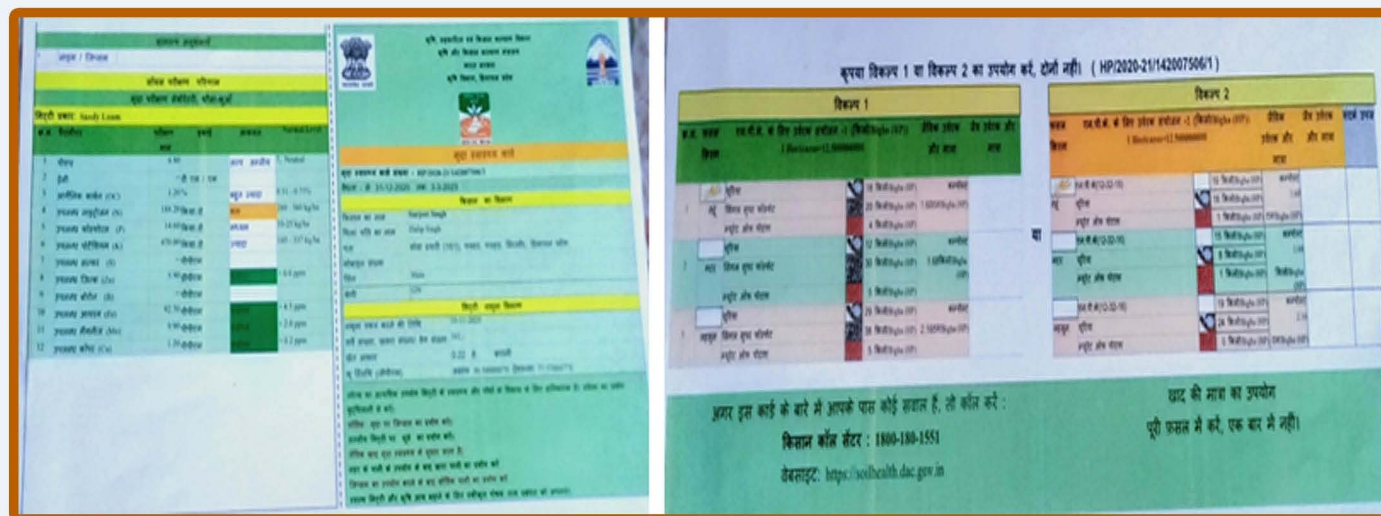
Purandev has been practising natural farming for the past eight years. According to him, if farmers incorporate mulching techniques into their farming practices, the technique can help them to maintain 70% of the soil moisture in the crop field so that more water can be saved. He claims that knowing the soil health, such as types of nutrients and their levels are essential for production of horticultural crops. When he discovered the negative effects of overuse of chemical fertilisers and pesticides on soil, such as hardening of surface soil, reduced soil fertility, depletion of soil water holding capacity, and a decrease in the number of beneficial organisms in the soil, he became more interested in soil testing. Soil tests can be used to detect the current fertility and health of the soil, as well as nutrient deficits, toxicity levels, and mineral shortages. When he checked the soil, he discovered that it was nitrogen deficient. He did not use nitrogenous fertilisers to address the nitrogen shortfall; instead, he planted leguminous crops such as green peas and beans, which are good sources of nitrogen fixation in the soil. He began using farmyard manure and also applied "Jivamrut," and as a result, he is able to keep the soil healthy. He dispersed the Jivamrut throughout the farm. He used jeevamrut at a 15 days interval at first, but now he uses it at a 30 days period. Because he used it on a regular basis and his soil became healthier.

"Farmers' best friend used to be, and always will be, earthworms."

Puran Dev's "Jeevamrut" Preparation Procedure:

Jeevamrut preparation necessitates a 200 litre plastic drum, 180 litres of water, 10 litres of cow urine, one kilogramme of jaggery, one kilogramme of gramme flour (besan), and 500 grammes of soil. The soil should be acquired from a site where pesticides are not used by removing the top 6 inches of soil. The drum must be kept closed for seven days once all of the components have been added. It will be ready for application after seven days.

Soil Health Card of Purandev's Field



After eight years of natural farming, his field does not require any synthetic fertilisers or pesticides for better crop growth. His income and profit were maximised as his expenses were very low due to the use of all natural inputs available to him. Every year, after harvesting one crop, he conducts a soil test to determine the state of the soil and, based on the results, he maintains soil health for improved crop development and production. During the fiscal years 2018–19, his total annual income was 2 lakhs. In 2019–20, his annual income was 3 lakhs, and in 2020–21, his annual income increased to 4 lakhs. He trains other farmers about organic farming and serves as an inspiration to many farmers in his region.

CASE STUDY ON SOIL HEALTH MANAGEMENT

Sl. No.	Crops	2018-19		2019-20		2020-21	
		Area in Bigha	Production	Area in Bigha	Production	Area in Bigha	Production
1	Garlic	1	160 kg	0.5	180 kg	0.5	200 kg
2	Tomato	1	160 crates	1	170 crates	1	200 crates
3	Beans	0.5	20 kg	0.5	100 kg	0.25	150 kg
4	Maize	2	60 kg	2	650 kg	2	700 kg
5	Wheat	1	300 kg	1	350 kg	1	450 kg
6	Jowar	1.5	250 kg	1.5	300 kg	1.5	350 kg
7	Sweet Corn	Nil	Nil	0.25	10 kg	0.5	40 kg
8	Apple	Nil	Nil	1	600 kg	1	1000 kg
9	Peas	1	900 kg	Nil	Nil	Nil	Nil
10	Capsicum	Nil	Nil	0.5	900 kg	0.5	900 kg
11	Red Cabbage	Nil	Nil	Nil	Nil	0.5	50 kg
Total Income		2 Lakhs Per annum		3 Lakhs Per annum		4 Lakhs Per annum	

Purandev's income, area and production for the previous three years



**Department of Environment, Science Technology & Climate Change
Government of Himachal Pradesh**