

---

# *Ley Farming: A Way to Restore Soil Fertility and Green Fodder Production in Dry Land Areas*

---

**A. Sathishkumar<sup>1\*</sup>, E. Subramanian<sup>2</sup> and G. Selvarani<sup>3</sup>**

<sup>1</sup>Teaching Assistant, Department of Agronomy, Agricultural College and Research Institute, Madurai, Tamil Nadu, India.

<sup>2</sup>Programme Coordinator, KVK, Agricultural College and Research Institute, Madurai, Tamil Nadu, India.

<sup>3</sup>Associate Professor, Department of Agricultural Extension and Rural Sociology, AC&RI, Madurai, Tamil Nadu, India.

Corresponding author's e-mail: [sathishkumar08668@gmail.com](mailto:sathishkumar08668@gmail.com)

Published on: October 31, 2023

---

## **ABSTRACT**

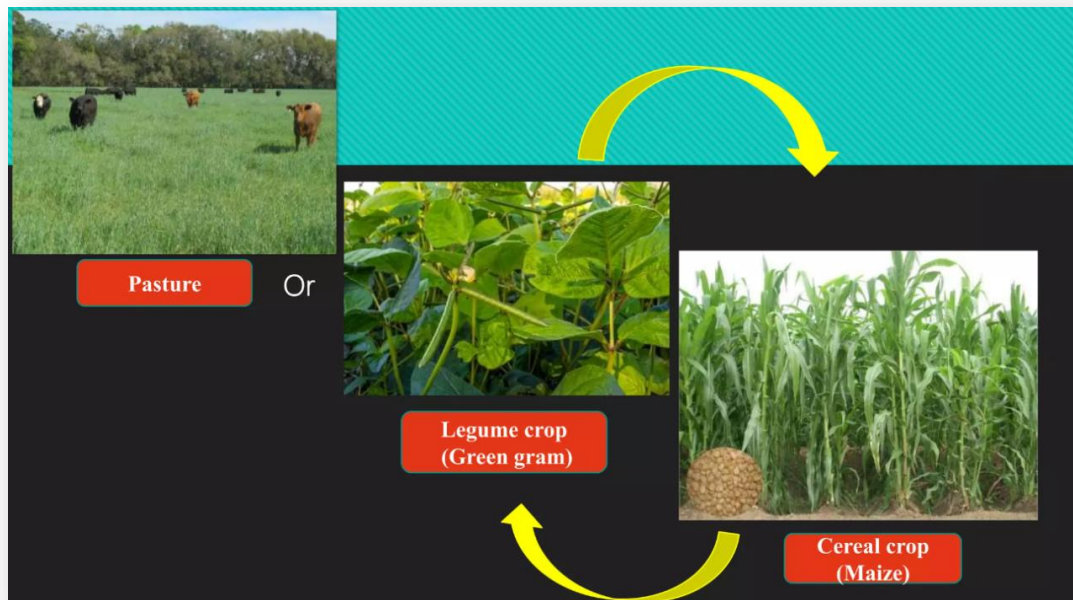
**Ley farming is a system of farming in which grasses and legumes are cultivated in a proper rotation for the production of hay and silage to meet the needs of livestock and enhance soil fertility. This system involves the use of various annual and perennial grasses and legumes which grown in short-term and long-term to manage the soil. Addition of perennial grasses or legume component which has different duration in rotation with arable crop is a main approach of poor farmers to restore soil fertility and improve food and fodder availability.**

## **INTRODUCTION**

Soil resources are the most important natural wealth for the sustainable development of agriculture in the world. However, exploitation of soil resources resulted in degradation of land and environment and fragile socioeconomic condition of the people. Inclusion of perennial grass or legume component which has different duration in rotation with arable crop is a main approach of poor farmers to restore soil fertility and improve food and fodder availability. Due to

poor farming practices and transfer of agricultural land for non-agricultural use has led to excessive erosion, nutrient depletion, soil salinity, water logging, compaction, vegetation loss, increased sedimentation, and chemical pollution from industrial effluents, pesticides, fertilizer and mining degradation (Subhash Chander *et al.*, 2010).

Ley farming is a system of farming whereby grasses and legumes are cultivated in a proper rotation for the production of hay and silage to meet the needs of livestock and enhance soil fertility. Ley farming provides security against weather vagaries and economic risks when compared with continuous arable cropping and it can be adopted in semi-arid and arid areas for the improvement of soil fertility, to enhance crop productivity as well as animal production and to check soil erosion. Loss of perennial pastures is not only causing fodder scarcity but also severe erosion of loose soil from bare and barren land surface. This system involves the use of various annual and perennial grasses and legumes which grown in short-term and long-term to manage the soil.



### **ADVANTAGES**

- Restoring soil fertility as leguminous crops fix nitrogen from the atmosphere, releasing it into the soil. Organic matter from foliage and roots that decompose during the resting phase provides plant nutrients, enhances water absorption and improves the soil retention capacity.
- Rebuilding soil organic matter and improving soil structure.
- Its prevent soil erosion.
- Breaking disease and pest cycles.
- Bringing up plant nutrients from deeper soil layers to the surface.
- To reduce weed growth.
- To reducing runoff and deep drainage.
- Improves production of livestock.

**Suitable grasses for ley farming**

Sl. No.	Common Name	Botanical Name
1.	Para grass	<i>Brachiaria mutica</i>
2.	Guinea grass	<i>Megathyrsus maximus</i>
3.	Rhodes grass	<i>Chloris gayana</i>
4.	Bermuda grass	<i>Cynodon dactylon</i>
5.	Sudan grass	<i>Sorghum x drummondii</i>
6.	Australian grass	<i>Xanthorrhoea australis</i>
7.	Cumbu napier	<i>Pennisetum glaucum x P. purpureum</i>
8.	Elephant grass	<i>Pennisetum purpureum</i>
9.	Buffel grass	<i>Cenchrus ciliaris</i>
10.	Buffalo grass	<i>Bouteloua dactyloides</i>
11.	Maize	<i>Zea mays</i>
12.	Sorghum	<i>Sorghum bicolor</i>
13.	Pearl millet	<i>Pennisetum glaucum</i>

**Suitable legumes for ley farming**

Sl. No.	Common Name	Botanical Name
1.	Lucerne/Alfalfa	<i>Medicago sativa</i>
2.	Hedge Lucerne	<i>Desmanthus virgatus</i>
3.	Stylo	<i>Stylosanthes guianensis</i>
4.	Siratro	<i>Macroptilium atropurpureum</i>
5.	Blackgram	<i>Vigna mungo</i>
6.	Greengram	<i>Vigna radiata</i>
7.	Cowpea	<i>Vigna unguiculata</i>
8.	Groundnut	<i>Arachis hypogaea</i>

**CONCLUSION**

Practice of ley farming system could be a viable technology for production of green fodder for livestock and restoring soil fertility in dry land areas.

**REFERENCE**

Subhash Chander, K.C., Sharma, H.S.J. and Raj, P.M., (2010). Productivity and quality of arable crops and soil fertility as influenced by ley farming in hot region of Rajasthan. Indian Journal of Agronomy. 55 (2): 157 – 164.