INNOVATION OF FARMERS IN GADAG DISTRICT

Compiled by: KVK, Gadag

NAME OF INNOVATIVATIVE TECHNOLOGY IN GADAG DISTRICT : ***SAND MULCHING FOR SOIL MOISTURE CONSERVATION***

1. **Description of innovation:** Sand mulching is a technology of addition of coarse sand to the impermeable black soil in order to raise the successful crop under rainfed eco-system where rainfall is scanty and distribution is uneven. Usually 450-500 tons of coarse sand is added per acre and thesand is uniformly spread to the depth of 6 inches and only shallow cultivation is made. Shallow rooted crops like greengram, rabi jowar, groundnut and bengalgram crops are successfully raised.

2. **Problem statement :** Sixty percent of the soils in Gadag district are deep black soils and out of this, nearly 30 percent of soils are calcarious in nature. This property of soil is an inhibiting factor for raising successful crop due to poor retention of soil moisture. The idea of sand mulching was first originated in few villages of Yelburga taluka of Koppal district. The farmer gathered information from these villages and introduced sand mulch concept to Gadag district during 1990.

3. **Process of Technology Development:** The concept of sand mulching was evolved because of the frequent failure of crops due to poor retention of rain water. The sand mulching technology helps to retain the moisture for long period. Sand mulch reduces the evaporation loss of moisture. The farmer tested this technology on his farm during 1990 and got the encouraging results. Since then the farmer has been following this method in his 4 acre land.

4. **Relative advantage of sand mulching technology:**

- **Timely sowing :** Farmers can take up timely sowing because sand mulched soil will arrest run-off of rain water and facilitates infiltration & holds the soil moisture for longer period. In non-sand mulched soil, due to runoff the infiltration rate is very less and it takes 2-3 rains for soaking/wetting the root zone and then only sowing is possible.

- **Possibility of sowing during rainfall condition:** It is possible to take up sowing even if there are light showers as sand mulch technology helps for water retention and prevents evaporation.

- **Uniform harvesting:** Sand mulch technology helps for uniform crop stand and facilitates uniform harvesting thereby reducing labour cost and time.

- **Assured crop:** The returns from sand mulch technology is ensured even under deficit rainfall situation.

- **Prevents soil erosion:** Sand mulching technology prevents soil erosion as the sand mulch act as a barrier for sheet erosion in black cotton soils.

- **Moisture conservation:** Sand mulch technology facilitates faster infilteration of rain water and holds the moisture for longer period of time.

- **Efficient utilisation of sheep manure:** Efficient utilisation of sheep manure is possible as there is no run-off and the applied sheep manure remain in the field between coarse sand grains & releases the nutrients along with each rain water slowly.

- **High productivity:** Farmer is able to get 40-50 percent more productivity compared to non-sand mulch fields.

- **Adaptability across system:** Sand mulch technology can be adopted across the system in black soil area (i)where rainfall is scanty and (ii)where availability of coarse sand near to farmers' fields especially in seasonally flowing streams.

5. Replication and promotion:

The sand mulching technology has been widely adopted by farmers in the eastern part of Gadag district where rainfall is scanty and soils are impervious. It is adopted in an area of 1000 ha covering villages of Halligudi, Lakkundi, Eklaspur, Venkatapur, Vitalapur, Mevundi, Baradur and Pethalur. National Bank of Agriculture and Rural Development (NABARD) is refinancing Primary Land Development Bank (PLDB) for providing loan to farmers. As this technology has ensured sustainable production of crops even during drought year, it was taken under farm trial by University of Agricultural Sciences, Dharwad and is published in the book " Contingent planning for drought proofing". Farmers who have adopted the technology are of the opinion that there is 25-35 percent increase in yield compared to non-sand-mulch fields.

6. **Recognition:** The technology has been accepted by University of Agricultural Sciences, Dharwad and National Bank for Agriculture and Rural Development (NABARD) for refinancing to Primary Land Development Banks (PLDBs)

7. **Supporting document :**

View of sand mulch jowar crop

8. **Profile of farmer:**

   a. Photograph of the farmer

Mr. Suresh V. Channalli

   b. Name and address : **Mr. Suresh Veerappa Channalli**
   At & Post : **Halligudi**
   Taluk: **Mundaragi**
   District: **Gadag**
   State: **Karnataka**
   Pin: **582115**

   c. Phone number (Mobile) : **9449018799**

   d. Age (as on March 31, 2010) : **46**

   e. Education qualification : **SSLC**

   f. Land holding : **8 ha.**

   g. Farming experience: **25**

   h. Social recognition: **Ex-member of Gram Panchayat**