

## New groundnut sowing practice

### CONSOLATION

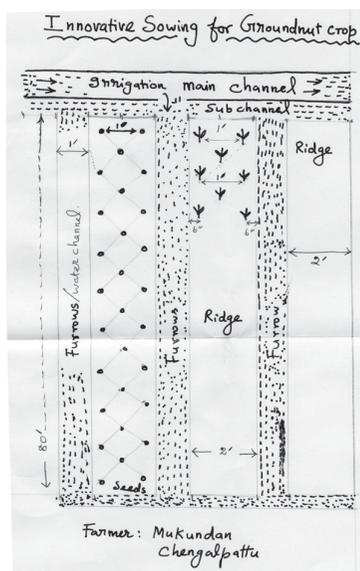
**P. B. Mukunthan**, a BSc. graduate, and a farmer by profession, has been practising organic farming for the past 15 years in an attempt to preserve the delicate ecological balance. He lives in Chengalpattu with his wife and two sons. Before doing anything he always talks to various farmers and takes their suggestions and then finally decides what to do. But he feels that interaction with formal agencies is a waste of time and he avoids talking to 'qualified people' as he believes they have no flexibility. His motto "*Man should be like an empty cup -always ready to draw.*" Being a self-proclaimed lover of nature, Mukunthan's opinions on the subject are strong and he proclaims that man is an intruder and has no right to poison soil or water. His faith in nature and the balance in which it always works is unshakeable and this motivated him to turn towards organic farming.

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#### The Innovation

After the land is ploughed, a raised bed of two feet width to a required length of field plot or sub plot usually 80-100 feet is made. Furrows of half feet depth and one foot width (to the length of the raised bed) are formed on either side of the bed. Groundnut seeds are dibbled in the ridges at one feet interval and they are dibbled 5"-6" away from the edge of the ridge or from the furrow. Another row of seeds is dibbled in the centre. Thus the groundnut seeds are sown in a triangular fashion i.e. the centre of the square is planted with a seed (Refer Figure 1).

#### Advantages of this method

##### **Saving of water requirement**

Groundnut needs only limited water and this method provides ideal moisture. By using irrigation water in the furrows, he is able to reduce water requirement of the crop to the extent of 62%. i.e. by using this method four times the area can be

covered with the same amount of water. This method also facilitates faster irrigation. This method also reduces the number of times the groundnut crop should be irrigated.

##### **Saving in ploughing, weeding and earthing up**

Groundnut is raised as a summer crop after the harvest of paddy or any other crop. Usually the seeds of groundnut are sown in the furrows formed by country plough or tractor plough. But, Mukunthan made ridges and furrows by using a country plough with palmyra leaves. He did not plough the field finely but left the clods as such and thereby minimized the cost of ploughing. In this method irrigation is done soon after making the ridges because in any dry area, when ridges are formed, they dry up soon. But this immediate irrigation favours the growth of weeds. So a thorough weeding is necessary within 25 days of sowing. Later on the crop covers the entire ridge canopy and weed growth is arrested due to the

shade effect. If weeds grow in the irrigation furrows they need not be attended to as this will not hinder crop growth. There is no need for a second weeding and it saves the cost of five labourers per acre. Similarly there is no need for earthing up as aeration and looseness of the soil exists in the ridges. Mukunthan uses organic liquid fertilizer (cow dung and jaggery mixed with water and fermented) in the channels.

#### ***Easy harvesting of groundnut crop and reduced seed rate***

This method facilitates easy pulling of plants, without any difficulties as is not the case in the conventional sowing system. Even if there is not enough moisture it is possible to harvest. Each plant holds about 25-30 pods on an average and it extends to a maximum of 120 pods per plant. Thus the yield is similar to that using the conventional sowing system which is also between 20-35 pods per plant i.e. 20 bags per acre (each bag holds about 40 kg of pods). This method also reduces the seed rate of groundnut from the conventional 40 kg per acre to 30 kg/acre and this is valued at Rs.500 per acre. Thus less water, less seeds and less labour is required but the yield remains the same.

#### **Formal recognition**

*"Sowing of groundnut seed in a triangle fashion to give a maximum soil cover is innovative. Sowing on the ridge will definitely reduce weed growth, facilitate harvesting and reduce irrigation water requirement. The advantages claimed in this technology for reduced seed rate, reduced cost of weeding, easier harvesting and no need for earthing up operation have scientific basis."*

This is what Mr. M.S. Basu, National Research Centre for Groundnut, (Indian Council of Agricultural Research), Junagadh has to say about the method developed by Mukunthan.

#### **Other forays into innovations**

#### ***Green manuring and mulching using Water Hyacinth***

Mukunthan has developed a system of mulching by using commonly available weed plants found near his village. Sengalpattu district is known for lots of ponds and tanks useful for irrigation. But sometimes these water sources have weed problems due to the prolific growth of *Akasathamarai* (water hyacinth). So Mukunthan decided to make use of the water hyacinth, normally seen as a menace, and removed them from the ponds and transported them to his paddy fields using tractors. Usually 10 tractor loads i.e. about 15 tonnes are required for one acre. After decomposition in the field (for around 15 days) he puddles the field and plants paddy seedlings. He usually raises "*kullakar*" traditional variety of paddy. He has recorded more than 20 bags i.e. 75 kg more yield per acre by using this practice. By observing the good growth of paddy seedlings using this method he decided to try this in other vegetable crops like brinjal. This method also saves irrigation water to a large extent. Mukunthan is also attempting to raise vegetables on a fully (12") mulched field using water hyacinth and many other agricultural waste materials using the jogger system for irrigation.

#### ***Using weed plant as Green manure***

*Kattupudina* (*Mentha spicata*) is a roadside weed plant found abundantly in many villages. His friend Dr. Solaiappan, an agricultural scientist working in a co-operative sugar factory told Mukunthan that during his experiments he had found that *Kattupudina* has growth promoting substances. This knowledge motivated Mukunthan to try it in his own field and he found it very useful. Mukunthan uses 200 bundles (each bundle weighs 15 kg) of these weed plants per acre. They decompose quickly and result in vigorous growth of paddy seedlings. Using these weeds as manure also ensures that the seedlings are free from disease and pest attack to a great extent.

#### ***Country seed drill***

Mukunthan has designed a country seed drill, which delivers four seeds with a spacing of 9". For *Soyabean*

he uses 9" spacing and alternate rows are plugged off to get 18" spacing for *Til* seeds. For a good crop and to achieve a higher yield, thinning is an important agricultural practice, which can be comfortably achieved using this sowing method. He also sometimes uses a tractor for sowing and it forms five ridges and furrows with 18" space between two furrows. By adjusting the centre rod of the tractor, one can get nine rows of furrows with a spacing of 9" between furrows. These furrows can be used for sowing paddy seeds also.

#### ***Restoration of the cultivation of GEB 24***

Mukunthan is proud of the fact that he has been able to restore the cultivation of GEB 24 (Kichdi Samba), a fine variety which was almost on the verge of extinction. He is also trying to restore four more varieties of paddy.

#### ***Reintroducing the native breed of cattle- Tharparkar***

For successful organic farming he realized that he needs cattle for cow-dung and urine and for this purpose he used some Jersey cross animals. But he found that they

do not conceive regularly and are susceptible to illness. Then after considerable thought and discussion with various people, he decided on the native breed '*Tharparkar*'. With a lot of difficulty and expenses he brought 12 animals (two lorry loads) from Jaipur, Rajasthan (2200km away) to his farm. These cows are now settled well and on the first lactation they are yielding around 8-10 litres of quality milk with good fat content. Now he has four male calves and four female calves. He proposes to send the male calves to various voluntary organizations to upgrade local stock. Mukunthan claims that this native breed animal has become an eye opener to many farmers down South as its yield is the same as that of the foreign breeds like Jersey and Friesian. He also holds the opinion that it was a blunder to go after the foreign breeds instead of concentrating on pure selective breeding. He acknowledges with gratitude the help given by Mr.Vivekanandan of Seva Trust Madurai who helped him in finding the right person- Mr. Mani Sekar to get the best animals.