

## **Handfull Seeds for Bountiful yield in Paddy**

Mr.Perumal (60) is a farmer in Alangudi village , Nagapattinam district of Tamil Nadu cultivating 3 acres of land in the delta region known for paddy cultivation. He studied up to 6<sup>th</sup> standard . He could not proceed his studies upon death of his father . He immediately entered in to farming and continuing over last 40 years . He has standardized the practice of sowing of paddy with less seeds but maximized the output.

### **Curiosity in following modern seed production**

Mr.Perumal wanted to be a perfect agriculturist and his frequent visit to paddy research station in Aduthurai ( affiliated with Tamil Nadu Agricultural University ) town nearer to his village enabled him to become a perfect seed producer for any new varieties released by the Agricultural University / Department of Agriculture . Accordingly he multiplied many breeder seeds and cultures . He has been following the package of practices strictly and bring out best results in terms of quality seed production. During 1984 Government has given loan money for installation of bore wells which he paid back promptly though many defaulters loan has been written off. By his good contact with local paddy research station he is good choice for developing breeder seeds for paddy variety ADT 43 . He distributed 100 bags of paddy seeds to other farmers. He found that seed production of any new paddy variety is a good venture to earn income and therefore continued his efforts in procuring seeds of paddy varieties from Dept of agriculture department or from other source including private pesticide / input supplying agencies . He earned a good name in the village around while he commands respect in Govt circle for his systematic following of agricultural practices especially for successful seed production . He distributed seeds of new paddy varieties viz, ADT 31,41,42,43,48,50 and so on.

### **Story behind reducing the seed rate**



During 1975 when he raised nursery by sowing a seed rate of 50 kg per acre poor germination due to disease incidence. However he noticed very few seeds germinated in the edges of nursery . He decided that as he already prepared the main field for transplanting purpose with basal dose of manure etc. He therefore managed with available germinated seedlings but planted in a wider spacing of 30 cm or so . To his surprise he was able to harvest the same yield when planted with seedlings with good germination of 60kg seed rate per acre to 10kg , 5kg, 1kg. Lastly he satisfied with 50x50cm spacing.



He has calculated the number seedlings required for 4000 sq .M (1acre) as 4 sq Meter is sufficient to hold 4 seedlings. He calculated it as 16000 seedlings sufficient to cover 1 acre at 50x 50cm spacing ; then he counted the number of seeds in 250gm and it is 18,000 numbers which is more than sufficient to cover 1 acre he wonders. Finally he experimented with just 250 gm seed rate with quality seeds of ADT 47 paddy variety and raised nursery by direct sowing in a hovelled nursery bed in 1990 .



He also followed traditional method of soaking in water for 12 hours then draining excess water by placing in a cloth bag and kept for 24 hours before sowing . This has resulted in quality seedlings with good germination and he pluck the seedlings from 15<sup>th</sup> day to 20<sup>th</sup> clay which ensures good survival in main field after planting . He tells that 3 cents of land is sufficient to develop seedlings to cover 1 acre . He raises in 12 x 10 single bed after levelling it manually through a wooden leveler (*Parambadithal*)

He also become well versed in the number of tillers in each variety of paddy and optimum numbers he established by wider spacing especially with 50x50 cm . In each clump there are about 100 tillers (range 70 – 120) and majority of them are productive i.e. 70 – 110 . In each ear head he counts the number of grains and it is upto 400 and for each clump it totals up to 250 – 300gm.

### **Advantages**

From the year 2002 onwards department of Agriculture promote SRI (System of Rice Intensification ) method of paddy planting which becomes widely advertised . However Mr. Perumal's method of reducing seed rates began in 1990s and it is much earlier to SRI method. Even in SRI method it has been advocated to use 2kg of seeds

for planting in 1 acre with 14 days old paddy seedlings. These seedlings when planted in the main field susceptible to heavy wind or rain lead to lodging . However in Perumal method such problems do not arise and also less incidence of rat damage and attack of *fulgarid* bug (brown jassids) . He has come across many advantages over SRI method of planting and his observations are given below.

Sl.No.	Characters / practices	SRI method	Mr.Perumal's method
1.	Seed rate	2kg / acre	250gm/acre
2.	Nursery duration	14 days	14-20 days
3.	Suitability for planting <i>kuruvai</i> ( first season i.e. May – June)	OK	OK
4.	Suitability for planting <i>Thaladi</i> (2 <sup>nd</sup> season i.e. Oct – Nov )	Not suitable	OK

### Advantages over conventional method of planting

Sl.No	Name of Practice Input	Labour and cost involved			
		Conventional method		Mr. Perumal's method	
		No.of labour	Cost in Rs.	No. of labour	Cost in Rs.
1.	Raising nursery	1 male	300	¼	50
2.	Seed Cost		900 (30kg)	---	10 (250 gm)
3.	Transplanting operation i) plucking ii) planting	10 males + 15 women	3000 3000	1	300 3000
4.	Weeding	40 women	8000	30 women	6000
5.	Plant Protection	2 men	600	1 man	300
6.	Harvesting	5 man + 15 women	4500	15 women	3000
	<b>Total</b>		<b>20,300</b>		<b>12,660</b>

He specifies the advantages of maximum paddy yield of 3 tonnes in *Kuruvai* season compared to average yield of 2 tonnes obtained by other farmers ; in the *Thaladi* season he harvests maximum of 4 tonnes compared to 3 tonnes by average yield usually obtained using higher seed rates by other farmers during that time. He also claims that he obtains good straw and its quantity is higher ( 200kg extra )than conventional method. Weeding is easier with less laborers' as it is more visible with wider spacing.



திரு.ரெ.பெருமாள் அவர்கள் ஏக்கருக்கு 300 கிராம் விதை பயன்படுத்தி சாகுபடி செய்த வயல்

In SRI method weeds grow profusely while in his method less number of weeds as water regulation is followed on unique way. In his method soil moisture is kept at good condition for the first 15 days of transplanting i.e. 1 cm standing water. Then on alternate days water can be irrigated depending up on the moisture. In SRI method they follow alternate drying and wetting and leads to profuse growth of weeds and it will reduce the productivity of tillers and number of tillers.

He has also reduced the application of inorganic fertilizer by adopting a unique method of organic liquid fertilizer. He has developed a pit size of 5'x 3' with 5 feet depth. He incorporated the neem leaves, Calotrophis , Datura , Vitex negundo, cow dung (25 basket), cow urine (5 litre) and allow the irrigation water to pass through the pit after 3 days of initial de composition. He replaces with fresh herbs and ingredients after 2-3 weeks of time or thrice in a cropping season . This way he has almost stopped applying urea and potash fertilizer he followed during earlier years of seed production. However he continues applying azospirillum, phosphobacteria and pseudomonas each 1-2 kilos at the time of planting as basal dose of fertilizer. He raises daincha, phillipasera (*naripayaru* ) legumes as green manure and in corporates in soil after 45 days of sowing by ploughing in-situ.

His mission is instead of maximizing the output or gross income he pursues reducing the input cost, labour cost and there by one shall derive more profit from farming. With this motto he is interested in approaching many organizations to record his

innovation of “handful seeds for bountiful yield” in Guinness record book with out much cooperation as expected from Government side . However he has received Rs. 10,000 as cash award from Mr. Munusamy, District collector of Nagapattinam district during 2011 for his innovation. Local Krishi Vigyan Kendra ( agriculture extension centre supported by Indian Council of Agriculture Research, Ministry of Agriculture ), at Sikkal has visited his field and recorded all parameters / practices involved and appraisal report is made available in Tamil and later on District level agricultural Department officials appreciated him.

He has also developed skills in identifying egg masses of paddy pests viz. Paddy stem borer (in leaf tips covered with yellow sponge like substance ) and leaf roller (looks like seeds of red gram) and collected very easily and destroyed. This method of egg collection has reduced half the damage of pests he claims.

Whenever he sprays the pesticide he advocates walking backside so that the spray fluid may not fall on the spraying person and efficiency increased he claims. While planting he advocates the roots are not twisted as it happened in deep planting while shallow planting will ensure the roots are straight lead to better survival and growth.

### **Dissemination**

By seeing his method many farmers have reduced the seed rate from 60 kilo to few kilos. He says that more than 6000 farmers in Nagapattinam, Thanjavur, Thiruvavur, Pondicherry region who visited his field adopted low seed rate up to 2 kilos per acre or even 500 gm. Farmers in Mayiladuthurai, Kuthalam , Naganancheri, Murugamangalam, Kidathalaimedn , Akkur and also in his own village Alangudi (about 100 farmers ) have adopted this method sowing of low seed rate .

Some farmers who adopted this low seed rate technique and their contact address are given below :

1. Murugan ,  
Alankudi ,  
Gumbakonam District,  
Cell: 97516 38191.
2. Suresh,  
Pondichery,  
Cell:93457 72354.
3. Babu,  
Nagapattinam District,  
Cell: 94429 02641.
4. Partha sarathy,  
Gumbakonam,  
Cell:9443969807

### **Address of Innovator :**

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S/o Rengaraj  
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