

IN THIS ISSUE

Experiences of a farmer from Manganallur	2
Organic cultivation of Cotton	4
Some tips from Ethnoveterinary medicine	6
Books & Videos	7

KAPPAKAR FOR FOOD SECURITY

Kappakar paddy variety is usually cultivated in clayey soil as a dry sown crop during the Samba (July – January) season. The duration of this crop is 5 months. More than 30 farmers have been conserving seeds of this variety in Thiruvanaikovil village of Thirukazhukundram block for more than

3 generations. When we interviewed the farmers as to why they conserved this variety, they reported the following –

“Every year we cultivate Kappakar variety as a dry sown crop in about 50 acres. This variety can tolerate drought. It can also withstand floods. The incidence of pest attack is quite low. Altogether, the cost of cultivation is very low. Hence we cultivate this variety every year.

During the Samba season (August – January) of this year (2002), our villagers had sown Kappakar as a dry crop in about 50 acres of land. Some farmers had sown a high yielding variety called “White Ponni” as a dry sown crop. Since there was no rain for 2 months subsequent to sowing, the crops withered. As soon as it rained, the Kappakar crop recovered and turned green. On the other hand, the Ponni crop did not recover. The average yield is about 16 – 18 bags for acre.

The rice of this variety is ideal for making idli, dosa. It also tastes good if the cooked rice is left overnight and then consumed. The hay of this paddy variety is also a good fodder for the cows.



The field of Mr. Varadarajan with the green Kappakar and the withered Ponni crop

Source :

Mr. S. Varadharajan, Mr. Sankar ,
Mr. Krishnan, Mr. Manickam,
Thiruvanaikovil, Ozhalur (P.O.),
Thirukazhukundram block, Kancheepuram
district.

Note : We had personally visited the fields of these farmers. It was quite surprising to note that Kappakar paddy variety remained green even in extreme drought conditions.

— S. Arumugasamy,
S. Manikandan

EXPERIENCES OF A FARMER FROM MANGANALLUR



Mr. Santhanakrishnan is an organic farmer from Manganallur village situated in Mayiladuthurai Taluk of Nagapattinam district. He contacted our Sirkazhi Centre during July 2002. He cultivated 3 indigenous paddy varieties – Kitchali Samba, Kappakar and Jil Jil Vaigunda for seed production during the July – December season. He conserved these varieties in ½ an acre of land. He cultivated these varieties by the single row method due to which the yield had substantially increased.

Name of the paddy variety	Quantity of seeds	Area of cultivation
Kitchali Samba	5 kgs	24.5 cents
Kappakar	2 kgs	7 cents
Jiljil Vaigunda	3 kgs	16 cents

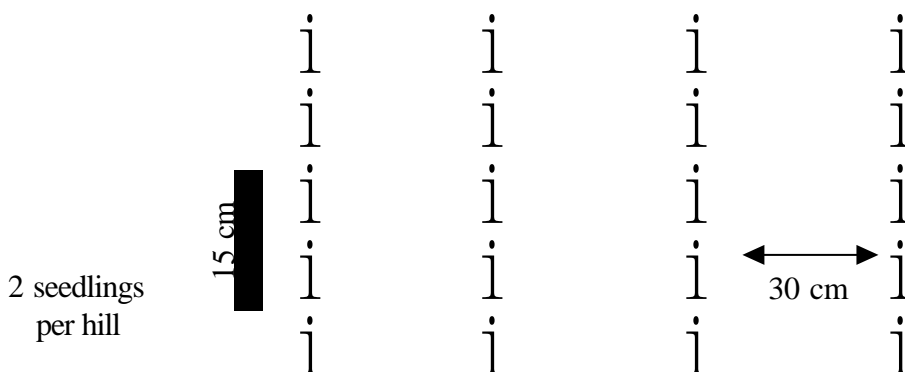
He prepared a nursery by adding green leaf manure and 10 kgs of neem cake as basal manure. The seedlings were transplanted on the 35th day. Since he observed bacterial leaf blight in the nursery, he pounded leaves of neem, vitex and pongam. He soaked it in 1 litre of cow's urine and sprayed. He transplanted these paddy varieties by the 'single row' method; He followed this method of cultivation for seed production.

Single Row Method

This method is followed in Philippines and Japan. In this method, transplanting is done in the main field using a rope; the spacing between two plants in a row is 15 – 20 cms and the space between 2 rows is 30 cms; 2/3 seedlings are transplanted in every hill.

In this method, there is sufficient aeration around the plants. Sunlight reaches the basal portion of the stem. So, the attack of pests is low. Tillering is increased because there is sufficient gap between the rows; the growth of weeds is more only if the land is not ploughed well.

After the first weeding, he mixed 40 kgs of ground nut cake and 40 kgs of neem cake and applied it as manure; This method of cultivation reduced the attack of pest and disease. He sprayed Panchagavya at 3% concentration during the flowering stage.



Details of Harvest :

Paddy variety	Area of cultivation	Yield	Average yield/acre
Kitchali samba (131 days)	24.5 cents	337 kgs	1375 kgs
Kappakar (145 days)	7 cents	110 kgs	1571 kgs
Jil jil vaigunda (135 days)	16 cents	235 kgs	1469 kgs

Mr. Santhanakrishnan feels that the cost of cultivation of Kitchali samba is less since there is no attack of pests and diseases. Since the grains are slender, it is ideal for cooking. From his yield, he converted 60 kgs into rice and the rest were used as seeds. During the next samba season (July – December), he plans to cultivate this variety in 1 acre of land. He also distributes the seeds to neighbouring farmers.

He also cultivated Ponni organically in 3 acres of land and is expecting a good yield from it. Besides, he also cultivates vegetables like cabbage, brinjal, tomato and chillies in 25 cents of land.

Contact Address : Mr. S. Santhanakrishnan, K.S.O. Mill, Manganallur Bazaar, Thiruvarur Main Road, Mayiladuthurai, Ph: 253434.

— *Subhashini Sridhar*

PUMPKIN BEETLE CONTROLLED BY DUNG SOLUTION

During the Samba (July – August) and Navarai (December – January) season, farmers of Kancheepuram district cultivate Cucurbitaceous vegetables like ash gourd, bottle gourd, snake gourd, ribbed gourd, cucumber and watermelon in their fields.

The seeds of these vegetable varieties are sown in pits. There was a severe attack of pumpkin beetle on these crops from the 25th day of sowing till harvest. The pumpkin beetle or leaf beetle is yellowish brown or yellowish red in colour. This pest is found on both the surfaces of the leaf and also on the flowers. Leaves attacked by this pest appear like a sieve and begin to dry. This pest sucks the sap from the flowers. So, the flowers wither away before attaining maturity. This has an adverse effect on the yield of the crop.

Mr. Balasundara Nayakkar, Mr. Vedachala Nayakkar, Mrs. J. Chandra, Mrs. L. Amudha who are farmers from Kayirambedu and Moolakazhani villages of Kattankolathur block have been using an indigenous method to control this beetle.

Preparation of dung solution

They mix dung of the common brown sheep with either cow dung or buffalo dung in equal quantities. To this, 5 times the volume of water is added. This is filtered well and sprayed on the leaves. Within 4 days of spraying, the beetles are effectively controlled. This indigenous pest control technique has been practised by these farmers for the past 20 years.

— *K. Subramanian*

ORGANIC CULTIVATION OF COTTON



Mr. Balasubramanian is a farmer from Manganallur village of Nagapattinam district. After realising the harmful effects of pesticides, he started practising organic farming from 1999 onwards. He cultivates paddy, black gram and cotton in 6 acres of land. He has been preparing and using organic fertilisers and biopesticides for the past one year. He talks about his experiences.

“Using chemical fertilisers and pesticides for cotton crop only increases the cost of cultivation. On the other hand, it does not increase the yield. Though I was on a financial crunch and I was mocked at by the neighbouring farmers, I decided to cultivate cotton organically.

I sowed SVPR-4 variety of cotton in 83 cents of land with a spacing of 75 cms between pits. On the 20th day after sowing, I sprayed 5% of a biopesticide prepared from 5 different leaves. Weeding was done on the 30th day and 500 kgs of compost was applied as manure. 3% panchagavya was sprayed 3 times with a time interval of 10 days. 3% tender coconut water was sprayed to increase flowering in cotton. Then, I mixed 100 kgs of compost, 25 kgs of Neem cake, 10 packets of Azospirillum and 10 packets of phosphobacteria and applied it as a top dressing. The plants were subsequently irrigated and panchagavyam was sprayed. This application enhanced a second flowering in plants. In my field, the attack of protenia (*Spodoptera litura*) was less when compared to fields where chemicals were applied.

I also planted Castor as a border crop and Sorghum as an inter crop in the cotton field. This system of cropping decreased the pest attack in cotton. Since the weather was very hot this season, the yield in cotton was reduced. However, my yield was substantially higher when

compared to the yield from chemically cultivated farms. During this season, the attack of mealybug was higher in cotton cultivated in our area. To control this, I mixed 1 litre of tobacco extract and 1 litre of cow's urine (per tank) and sprayed. Within 3 days of spraying, the pests were well controlled; On the other hand, farmers who cultivated chemically had a greater incidence of pest attack in their fields.

In the chemically cultivated cotton crop, flower drop was higher. Though these plants appeared tall and green, it was attacked by aphids and fruit borers. The cotton crop cultivated organically was not green and was short in stature. But the weight and colour of the cotton lint was superior in the organically cultivated plants”.

This farmer is now a role model in his village and has encouraged many farmers to take up organic cultivation of cotton.

Contact Address :

Mr. S. Balasubramanian
FDC coordinator
397, Thiruvarur Road, Manganallur
Mayiladuthurai Taluk – 609 404
Nagapattinam district, Tamilnadu
Ph : (04364) – 253 616

— *Subhashini Sridhar & Ashok Kumar*

**Free for every Subscription
for this Newsletter**

**A CIKS Publication (*Organic
Vegetable Gardening or Neem : A
User's Guide*) free for every
subscription received before
March 31st 2003.**

**Readers can indicate their choice of
the booklet**

YELLOW OLEANDER IN PEST CONTROL

Mr. V. Muniyandi is from Othivakkam village of Thirukazhukundram block of Kancheepuram district. Under the CIKS seed conservation programme, he conserves indigenous vegetable varieties like winged bean, bitter gourd and pumpkin in 30 cents of land. These seeds were sown during July. After 140 – 150 days of sowing, he observed the attack of fruit borer in Bitter gourd. He used a novel plant extract for controlling it, the details of which are given below.

About ½ a kg of unripe fruits of Yellow oleander (*Thevetia peruviana*) was taken and pounded well. It was placed in a vessel and 1 kg of *Clerodendrum phlomidis* (Taludalai - Tamil; Arni - Hindi) leaves and 1 kg of neem leaves were added. 5 litres of water was added to it and the mouth of the vessel was tied securely with a cloth. It was left as such for 8 days. Once in 2 days, the cloth was removed and the mixture was stirred well. This extract was filtered after 8 days. Each litre of the filtered extract was diluted with 9 litres of water and sprayed. There was complete control of fruit borer after one week of spraying.

— K.Subramanian

DOES BOILING DESTROY VEGETABLE NUTRIENTS?

Fresh vegetables especially greens contain a variety of beta-carotenes which are important for the eyes. As per the published reports, cooking of vegetables in general and spinach in particular destroys the nutrients.

No! This is an old idea. There have been some very interesting studies on this. It may even be the opposite. In some cases cooking increases nutrient availability of some foods. For example, cooked tomatoes are better rather than raw. Cooked tomatoes like spaghetti sauce and tomato sauces, have more lycopene available to elderly men.

When we boil food in some cases we do lower the nutrient content and in some cases we don't. Microwaving is a good alternative for vegetables in order to preserve nutrients. But how many people can afford it.

So, just eat vegetables the way we like them and stop worrying about it, because we won't eat them otherwise (<http://www.iherb.com>)

Source : *Natural Product Radiance*,
July-August 2002

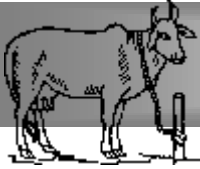
TO CONTROL GRASSHOPPER IN PADDY

Mr. K. Vedagiri cultivated Super Ponni (a high yielding paddy variety) in 30 cents of land during the current Sornavari season (mid April to mid August). He belongs to Alavai village in Thirukazhukundram block of Kancheepuram district. After 30 – 35 days of transplanting the crop, he observed the attack of grasshoppers in his field. As per the advice of our Centre, he sprayed cow dung extract to control these pests. The method of preparation of this solution is as follows.

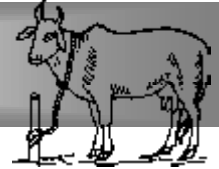
2 kgs of cow dung, 1 litre of cow's urine and 1 kg of neem cake was taken in a large vessel; To this 20 litres of water was added. The mouth of the vessel was tied securely with a cloth and left as such. After 3 days, the cloth was removed and the extract was stirred well. Then, it was allowed to settle and the supernatant was used. To every litre of the extract, 100 ml of khadi soap solution and 9 litres of water was added and sprayed with a power sprayer.

Mr. Vedagiri sprayed 2 tanks (20 litres) for controlling the grasshoppers. There was complete control 4-5 days after spraying. He now recommends this practice to other farmers to get rid of the grasshoppers.

— K. Subramanian



SOME TIPS FROM ETHNOVETERINARY MEDICINE



For Constipation: Common salt in hot water with dry ginger powder to be given.

Purgative: Castor oil or linseed oil - 1/4 litre and ginger extract- 100 ml. to be given orally

Dysentery : Juice of amla (*Phyllanthus emblica*) given with water orally.

Retained placenta : (1) in gruel, jaggery and til (each 200 gms) is mixed and given orally.

(2) lady's finger (Two handful) prepared as sauce, 250 ml. til oil and old jaggery 250 gms to be given orally.

Mastitis : Juice of 4 large size lemons to be mixed with chalk and applied externally to udder.

Bleeding from udder : Apply cow's ghee.

To stop secretion of milk : Boil tur dhal in betel leaf juice; the paste to be applied on udder and teat.

Fissures in teat : Apply butter or castor oil or til oil mixed with turmeric; hot water fomentation with alum can also be done; after milking apply butter or ghee or coconut oil.

Wound : Turmeric powder or til oil with lime water or neem oil with camphor is applied.

Deep wounds : Wash with turmeric water and apply honey.

Unhealing wounds : Sugar in the form of powder to be applied.

Wound in mouth : Apply juice of *Leucas aspera* with camphor or alum (15 gms), Water (1 oz) mix and wash.

Wound in hooves : Coconut oil with camphor to be applied.

Boils : Apply pungam oil or opuntia flower paste or wash with alum, copper sulphate and

water; Paste of *Andrographis paniculata* to be applied.

Wounds, Sinus with Worms : Apply leaves of *Delonix regia* with spider's web; A paste of old tamarind, jaggery, chillies in equal quantities can also be applied.

Pox boils in udder : Fomentation, apply alum powder.

Eczema : A paste of the leaves of *Cassia alata* mixed with coconut oil to be applied; or sulphur with mustard oil can be applied.

Skin diseases : Apply tulasi leaves with lemon juice or mix 1 part of camphor, 10 parts of neem oil and 20 parts of coconut oil or apply sulphur in coconut oil.

Ticks and mites : Apply extract of tobacco or past of *Calamus* rhizome or til oil on alternate days.

Skin irritation : Fleshy portion of *Aloe vera* to be applied.

Painful yoke region : Apply castor oil mixed with latex of *Calotrophis gigantea*.

Fits : Few drops of lucas, tulasi, ginger juice to be applied in both the eyes. Alternately few drops of soapnut paste in water can be poured into the nostrils.

To control ferocious cattle : Apply til oil as eye drops for 3 days.

For cattle which refuses to stand : Instil few drops of onion juice in nostrils.

**Source : Dr. G.M. Abdul Razak
Retd. Deputy Director - Animal
Husbandry**

Plot No. 163, Anna Nagar
Madurai, 625 020



NEEM : a user's guide - by *Subhashini Sridhar and K. Vijayalakshmi, Centre for Indian Knowledge Systems, Chennai, 2002, pp. 50.*



Since time immemorial, we have used the Neem tree in agriculture, public health, medicine, toiletries, cosmetics, livestock protection and rituals. The tree is considered invaluable and it is found in every part of our country, every roadside, every field and almost

every house. India has shared this tree and knowledge of its use free with the world. This book describes the use of neem in the context of agriculture and health and is meant to strengthen and enhance the indigenous tradition of the uses of neem at the local level.

Price : Rs. 50/- (English) Rs. 30/- (Tamil)
[Please add Rs.10/- towards postage].

Biodiversity - The Gift of Life
(Poster Calendar - 2003)



We have produced a four colour poster calendar on "Biodiversity - The gift of life". The introductory page provides information on the need for

conservation of biodiversity. The other four pages (one page for every three months) has information on rice biodiversity, vegetable biodiversity, livestock biodiversity and medicinal plant biodiversity with beautiful illustrations.

Price : Rs. 50/- + Rs. 20/- (for postage)

Available : CIKS, 30, Gandhi Mandapam Road, Kotturpuram, Chennai-85

How to Order? : To obtain copies, please send a Money Order or Demand Draft favouring "Centre for Indian Knowledge Systems" payable at Chennai. Cheques are NOT acceptable. We also do not send books by VPP.

Celebrating Diversity : Livestock and Poultry Breeds of Andhra Pradesh : A 2003 Year Planner

This planner highlights some of the important livestock and poultry breeds found in Andhra Pradesh, whose communities have contributed significantly to shape our country's genetic wealth. These breeds have evolved over time through selective breeding by local communities and natural selection for local production goals and environments. Breeds are an intrinsic component of people's livelihoods. India officially recognizes 26 cattle, 15 buffalo, 42 sheep, 20 goat, 8 camel, 6 horse, 3 pig, 3 donkey and 18 poultry breeds! Declining grazing lands, changes in cropping patterns from food to non-food crops, shrinking fodder and water resources, inadequate health care services have also played a role in threatening the production systems and their associated gene pools.

Price : Rs. 50/-

Desk Calendar on Fodder Plants

This calendar shows twelve plant species that are useful fodder for livestock. Most of them grow wild in the fields and forests, and are grazed upon by bovines, sheep and goats or lopped by poor livestock owners to feed their animals. This calendar is an attempt by ANTHRA to raise awareness about the amazing biodiversity found in India.

Price : Rs.50/-

How to Order? : Please contact
Anthra, Yakshi

124, Vayupuri, Secunderabad – 500 094
 Andhra Pradesh. Ph:(040)27113167,
 Telefax : 2711 0977

e-mail : anthra@hd2.dot.net.in,
yaksi@satyam.net.in, www.anthra.org

ATTACK OF RED MITE IN PADDY

Red Mite has become a prominent pest attacking the paddy crop in recent times. These pests are found in abundance both in the nursery and in the main field. All hybrid varieties of paddy are found to be attacked by this pest.

Symptoms : Red Mites are found in groups on the lower surface of the leaves. If the attack is severe, it can also be seen on the upper surface of the leaf. It is yellow or green in colour. Groups of these insects suck the sap and produce pale lesions on the upper leaf surface. These lesions coalesce. The leaves start turning yellow from the tip to the base. The symptoms resemble that of a nutrient deficiency.

Mr. Balasubramanian, Mr. K.G. Ramalingam and Mr. Sambantham Pillai – farmers of Manganallur village near Sirkazhi have tried the following procedure for controlling it.

1 kg of neem kernel was powdered and soaked in 10 litres of water for 24 hours. It was then filtered. The filtrate was mixed with 100 gms of lime and soaked for 12 hours. This extract was

filtered. To every litre of the extract, 9 litres of water was added (for a tank of 10 litre capacity) and sprayed. Spraying was done twice, once in every 10 days. This procedure was recommended by Mr. Singaravel and it was published in the October issue of the Tamil magazine – “Vivasayee Ulagam”.

— *Subhashini Sridhar*

FACTS ABOUT OUR SOIL

- For the past 25 years, Indian soils have been experiencing a net negative nutrient balance of 8 - 10 mt. per annum.
- About 70% of the total cropped area experiences nutrient depletion of more than 50 kg / ha. annually.
- The annual depletion of Nitrogen, Pottasium and Phosphorous is to the tune of 5.8 mt.

*Source : Down to Earth,
January 31, 2003*

Editorial Team : H. Saraswathy, Dr. K. Vijayalakshmi

Typesetting : S. Ramesh

Annual Subscription for INDIGENOUS AGRICULTURE NEWS

Subscription may be sent as Money Order or Demand Draft only (avoid cheques please) favouring “Pesticide Post”.

Individuals : Rs.35/-

Institutions : Rs.70/-

To

Book-Post



Centre for Indian
Knowledge Systems

Real-world solutions from traditional science.

30, Gandhi Mandapam Road, Kotturpuram, Chennai - 600 085, INDIA

Phone : 91-044-24471087 / 24475962 Fax : 91-044-24471114

E-mail : ciks@vsnl.com <http://www.ciks.org>