souvenir 2014

Innovative Interventions by Farmers in Horticulture

Indian HortiCulture Congress

An International Meet

Horticulture for Inclusive Growth

November 6-9, 2014 at CODISSIA Trade Fair Complex, Coimbatore, Tamil Nadu

Organized by

HORTICULTURAL SOCIETY OF INDIA
भारतीय बागवानी समिति

Estd. 1942

The Horticultural Society of India
New Delhi

In Collaboration with

TAMIL NADU AGRICULTURAL UNIVERSITY

Tamil Nadu Agricultural University
Coimbatore

Usefulness of innovation : In the existing practice, carrying the bucket with the hole makers causes drudgery to the labours. The innovative hole maker designed by the farmer reduces the drudgery while making the holes in the plastic mulching sheet. It relieves the farmer from carrying the bucket in one hand and making holes with the hole maker by the other hand. By this innovation the farmer can carry the hole maker alone in one hand with reduced drudgery.

Comparative utility over the existing method:

Details	Existing method	Farmer's Innovative Hole maker
Time taken per hectare	9.5 hours	5 hours
Labour required per hectare	2 no.	1 no.
Drudgery reduction (%)	-	60.0
Fuel requirement for heating (Fire wood - kg/ha)	10.0	2.0
Cost involved per hectare	Rs. 600/-	Rs. 300/-

Impact :

- A farm school on 'ICM in Watermelon' was conducted under ATMA with the technical guidance of the KVK, in this farmer's field. During the farm school in the technical session on plastic mulching, his innovative tool was demonstrated to the fellow farmers.
- The farmers are convinced by the method, its utility over time and reduction of drudgery involved in making holes in the plastic mulching sheet.
- After the demonstration, his innovation was adapted by the fellow farmers.

Adoption by others :

- The farmers adapting the plastic mulch technology are now using this tool by making their own hole maker, as it can be easily replicated.
- About 40 percent of the famers that use plastic mulching are using this tool. There will be increase in adoption if it is popularized further.

Commercial gains :

- The cost involved for making holes in the plastic mulch is reduced by 50 percent by this innovation
- In terms of labour, the cost involved for labour is reduced by 50 percent
- In terms of fuel, the requirement is reduced by 80 percent

Scope for commercialization : As the tool can be easily replicated, there is a chance for commercialization

Message :

This may be a simple tool, but the efficiency improved will be felt by those who are adopting plastic mulching.

The drudgery involved while adopting plastic mulching is reduced to a great extent by this tool.

Stacking of Tomato with Sunflower Plants

Personal Information

Name of the farmer	Shri Mahendra Sahu
Age	55 Years
Gender	Male
Complete Postal Address with village, mandal, district, state name and pin code	Village - Amagawa, Post - Peri, P.S. - Simariya, District - Chatra, Jharkhand
Educational Background	Graduate
Telephone number (Residence)	-
Telephone number (Mobile)	09931529250
Email ID	-

Information on Innovation

Type of innovation : Stacking of Tomato with Sunflower Plants

Specific group : Vegetable crop: Tomato

Existing practice : Tomato plants need stacking to support the weight of fruit bunches from fruit formation to harvesting. Small pieces of sticks are used for this purpose. Sticks are made either from tree branches or bamboo to provide support to tomato plants. The process is labour intensive and involves additional cost.

Details of innovation : Tomato plant being succulent and non woody cannot bear the weight of fruits. If enough support is not provided the branches droop down and break. This results in nearly 40% of fruit damage. In the innovative method, seeds of sunflower are sown near the root zone of tomato after 20 days of transplanting the tomato crop. Tomato plants come into bearing after 55-60 days after transplanting the sunflower plants are ready for stacking tomato plants so as to make the tomato plants stand erect.

Usefulness of innovation : It has been observed that sunflower as stacking material is better than sticks in keeping tomato plants erect.

Impact : This alternate method of stacking does not require any additional input for which the entire process is affordable by the farmers. Cultivation of sunflower along with tomato increases the cropping intensity as well as provide additional income to the farmers. This practice also minimizes the termite infestation that is common when bamboo or wooden sticks are used as staking material.

Adoption by others : The farmers of his village have adopted the innovation to economize on cost of staking in tomato.

Commercial gains : The innovative intervention by the farmer has improved the planting density in his field leading to higher returns of the fruits and additional income from the sunflower seeds.

Scope for commercialization : The intervention has lot of potential for commercialization as it eliminates the cost of staking by conventional methods.

Recognitions : Member of Farmers Organization

Documentation : Yes in Farm Innovators -2010 of ICAR

Message :

To minimize the loss of tomato fruits due to drooping of branches, use natural eco-friendly mode of staking by using sunflower plants as stake.

Protection Net Against Blue Bull

Personal Information

Name of the farmer	Shri Vijay Bahadur Singh
Age	52 Years
Gender	Male
Complete Postal Address with village, mandal, district, state name and pin code	Vill - Sabeyan, P.O. + P.S. + Block - Rajpur, Dist - Rohtas, Bihar - 802219
Educational Background	Graduate
Telephone number (Residence)	-
Telephone number (Mobile)	08002119937
Email ID	singhvijay5719@gmail.com

Information on Innovation

Type of innovation : Protection Net against Blue Bull

Specific group : All horticultural crops

Existing practice : Damage to crops caused by "Neelgai" or blue bull is a matter of great concern not only to the farmers but also the Govt. of Bihar. Farmers used to incur heavy losses throughout the year everywhere because of the free-entry and attack by "Neelgai". As the Govt. rules never allow for killings; the cereals, pulses, orchards and vegetable gardens are heavily damaged and no administrative or technical measures could control the seriousness / magnitudes of the problems.

Details of innovation : This farmer has found out an innovative way to restrict the entry of "Neelgai" to crop-land thereby safeguarding the interest of the farmers in the area. He has developed fencing net that has been designed to trap the animals and create "havoc" in the minds of these animals.

Now this innovative idea of farmer has been spread into the blocks of district; approx : 100 ha of farm-land of Sabeya village and adjoining areas having high density orchards of mango and guava, vegetables gardens and integrated farming have been fenced and protected. This protective

fencing net is a simple and low cost technology and is cheaper than the traditional fencing methods usually used by the farmers and the extent of control is 90%. An economic analysis of the fencing adopted by different methods is given herewith for an in depth understanding of the situation (Table 1).

Table 1. Comparative analysis of different methods of fencing

Sl. No.	Particulars	Cost of fencing (Rs/ ha)		
		Innovative Net	Barbed wire	Bamboo fencing
1.	Para twist Net (32 kgs @ 220/kg)	7040.00	-	-
2.	Bamboo- 132 pcs @ 40/pc	5280.00	-	-
3.	Para twist thread 6 kg @ Rs 180/kg	1080.00	-	-
4.	Labour cost (35 @ Rs 151/labour)	5285.00	-	-
5.	**Total Cost**	**18,685.00**	**-**	**-**
6.	Cement pillars (8") 110 pcs Rs 400/pillars	-	44000.00	-
7.	7- coils of Barbed wire, 469 kgs @ Rs 70/kg	-	32,830.00	-
8.	Thick wire 30 kg @ Rs 60/kg	-	1800.00	-
9.	Labour cost (60) @ Rs 144/labour	-	8640.00	-
10.	**Total Cost**	**-**	**87,270.00**	**-**
11.	Bamboo (8') 220 pcs @ Rs. 40/pc	-	-	8800.00
12.	Bamboo (24') 275 pcs @ Rs 100 /pc	-	-	27500.00
13.	Iron nails (2.5") 30 kg @ Rs 80/kg	-	-	2400.00
14.	Irons wires 7 kgs @ Rs 80/kg	-	-	560.00
15.	Labour cost (75) @ Rs 144/labour	-	-	10,800.00
16.	**Total Cost**	**-**	**-**	**50,060.00**
17.	**Extent of control**	**90 %**	**60 %**	**80 %**
18.	**Durability**	**4-5 years**	**12 years**	**3 years**

Usefulness of innovation : This protected fencing net is a simple and low cost technology. It costs Rs. 18685 as compared to Rs 50060 and Rs 87270 for barbed wire and bamboo fencing respectively. Its working life is about 4-5 years whereas bamboo fencing lasts only for 2-3 years. The extent of control is 90% .

Impact : The benefit cost ratio of the innovation is 3.17 when compared to 1.39 before the innovation.

Adoption by others : The technology is widely adopted by farmers of neighbouring district and state viz; Uttar Pradesh and Jharkhand for cultivation of vegetable and establishment of orchard crops. KVK, Rohtas has introduced net weaving training in its training calendar.

Commercial gains : Farmer has developed a group of people in his village for weaving of net. He used to buy threads at Rs 180/kg and sells his product at Rs 220/kg. In this transaction he saves Rs 32/kg excluding the wages of weaving.

Scope for commercialization : Keeping the adoptability of technology and its beneficial effects Govt. of Bihar has added it into its subsidy scheme and providing 50% subsidy to farmers.

Recognitions :

1. Awarded by ICAR-RCER, Patna
2. Received Mahindra Samridhi Award.
3. Recipient of Innovative Farmer at Bau Sabour in 2012.
4. Recognised as Farm Innovator in Zonal Farm Innovators Meet at Zpd Li, Kolkata in 2013.
5. Novel farmer Award by Gujarat Government in Vibrant Gujarat Global Agriculture Summit-2013.

Message :

I would like to appeal to our fellow farmers to assess and adopt this technology for getting rid of the menace of blue bull and reap a bumper crop from their fields.

Control of Late Blight of Potato and Tomato

Personal Information

Name of the farmer	Shri Ramchandra Singh
Age	58 Years
Gender	Male
Complete Postal Address with village, mandal, district, state name and pin code	Shri Ramchandra Singh, S/o- Shri Laldhari Singh, Village- Loknathpur, Panchayat & Post- Humaupur, Block- Bajpatti, Dist- Sitamarhi, Bihar- 843314
Educational Background	Matric
Telephone number (Residence)	-
Telephone number (Mobile)	09631371669
Email ID	-

Information on Innovation

Type of innovation : Control of Late Blight of Potato and Tomato

Specific group : Vegetable crops: Tomato

Existing practice : The farmers use systemic and contact fungicides in rotation to control the late blight of potato and tomato.

Details of innovation : Shri Ramchandra Singh has made an innovative intervention where in Desi alcohol (Local Wine) was applied on potato and Tomato to control late blight. He observed that 2-3 spray of alcohol with water control the blight by 90-95%. According to his experience even 250 ml. of desi alcohol in 15 liter of water has given the best result. This application is adopted by him even under extremely cold and foggy situations.

Ratio of water and desi alcohol: 15 liters and 250 ml.

Dose: He said that solution of 500 liters of water and 8 liters of desi alcohol is sufficient for one ha. in the field of potato.

Time of application: According to Sri Singh that the first spray is done when temperature comes very low (about 10°C) or fog starts. Then 2nd and 3rd application is done at 8 to 10 days interval.

Number of applications: It depends on the duration of extreme cold period or foggy period but generally 2-3 sprays are sufficient. In the field of Tomato he used 600 liters of water and 10 liter of desi alcohol for 2-3 times for better results.

Usefulness of innovation : Last year (2013-14) in Sitamarhi district the infestation of late blight in potato was extremely high. Which damaged the potato crop by about 60-70% but Shri Ramchandra Singh said that he has completely controlled the late blight in his potato field by 3 regular sprays of such solution at 8 days interval and produced 235 qt./ha.

Impact : Last year (2013-14) number of farmers visited his field and he shared his experience with those farmers so the farmers are very happy regarding such innovation. This year near about 100 farmers are going to adopt this innovation.

Adoption by others : About 100 farmers are going to conduct such practices for better production by minimizing of cost of cultivation and increase the production as well as B.C ratio.

Commercial gains : Last year (2013-14) it was found that in the village of Loknathpur farmers got about 80-90 q/ha. due to the heavy infestation of late blight while Shri Singh got 235 q/ha. This indicates the usefulness of such innovation.

Scope for commercialization : This innovation needs to be validated scientifically to establish the basis of the mode of action of alcohol on the pathogen. There is a large scope for its commercialization

Message :

Many of my fellow farmers hesitate to implement novel ideas to solve problems. Farm level innovations are equally important.

Yellow Sticky Pot Trap

Personal Information

Name of the farmer	Shri Laxmidhar Mohanta
Age	56 Years
Gender	Male
Complete Postal Address with village, mandal, district, state name and pin code	Village - Basudevpur, Block - Sadar, District - Keonjhar, Odisha
Educational Background	Matriculation
Telephone number (Residence)	-
Telephone number (Mobile)	-
Email ID	-

Information on Innovation

Type of innovation : Yellow Sticky Pot Trap

Specific group : All Horticultural crops: Pest Management

Existing practice : Farmers normally use yellow sticky traps impregnated with insecticides sold by the biocontrol companies. These traps are expensive and are not commonly available in all the villages.

Details of innovation : Developed yellow sticky pot trap by using locally available material i.e. earthen pot and mahua oil (*Madhuca indica*). The outer part of the earthen pot was painted with enamel yellow paint and smeared with mahua oil. The pot was placed with wooden tag in the field @ 20 numbers per ha. The colour attracts the insects and get stuck to the pot due to stickiness of mahua oil.

Impact : The performance of yellow sticky pot trap is at par with the trapping efficiency of white fly to commercial yellow sticky traps. It is cheaper, easy to prepare and eco-friendly; which controls significantly the viral diseases like little leaf in brinjal, leaf curl in tomato, YVMV in okra and mosaic in cucurbits, Further, it solves the problem of unavailability of commercial trap in the market.

Adoption by others : The framers in his village are very much impressed with the innovative intervention and they have also started using the yellow sticky pots as they are very easy to make and are quite effective to trap the adult forms of aphids and white flies.

Commercial gains : The intervention is a simple method to prevent the insect attack which ultimately reduces the number of sprays of insecticides.

Recognitions : Secretary of Grama Krusaka Mancha, Basudevpur, Identified as innovative farmer by the ICAR

Documentation : Yes in Farm Innovators -2010 of ICAR

Message :

Yellow Sticky pot trap is an inexpensive and very effective tool to minimize the adult population of important insect pests. The farmers can easily make and adopt the simple cost effective intervention to minimize the cost of costly insecticides.

Management of Leaf curl in Capsicum

Personal Information

Name of the farmer	Shri San Kar Malik
Age	30 Years
Gender	Male
Complete Postal Address with village, mandal, district, state name and pin code	Vill.Monipur, P.O. Polba, Block- Polba-dadpur, P.S. – Polba, Dist. Hooghly – 712 154, West Bengal
Educational Background	Madhyamik Pass (10)
Telephone number (Residence)	-
Telephone number (Mobile)	09051146062
Email ID	-

Information on Innovation

Type of innovation : Management of Leaf curl in Capsicum

Specific group : Vegetable crops: Capsicum

Existing practice : Leaf curl disease transmitted by white fly is very serious disease of capsicum which causes yield loss upto the extent of 60%. No satisfactory control except to control the vector is available to the farmers. Farmers generally spray imidachlorpid to control the vector, but total control is not possible and cost of cultivation is also increased.

Details of innovation : Maize seeds are planted in 2-3 rows alternately along the border of the main field at 20-30 days before transplanting of the capsicum. During full growth of capsicum the maize plants are grown to the height of 4-5 feet which act as barrier for the entry of white fly in capsicum field. Generally white flies are attracted to the maize plants and unable to overcome the barrier. The flies fly back from the maize plants and virus could not infect the capsicum. Therefore the capsicum plants remain virus free. The maize plants also act as barrier for fog which is also detrimental to the capsicum crop during cold months. By this technique a considerable yield loss can be reduced by avoiding the vector of devastating leaf curl disease.

Usefulness of innovation : This innovation is very effective to control the vector white fly and helps to reduce use of pesticides. Therefore cost of production is also less. Residual effect of pesticides can also be minimized.

Impact : By this practice cost farmers are getting higher returns. Use of pesticides is reduced which minimizes health hazards. Farmers are now financially stronger by selling their produce.

Adoption by others : Farmers are now adopting this practice for capsicum cultivation. Being cost effective technology more farmers are interested to adopt this practice. At practice about 15 farmers are producing capsicum with the technology.

Commercial gains : By this practice cost of production of capsicum is reduced upto 12-15% by reducing use of pesticides and yield is increased by 20%. Net profit is increased by Rs. 50, 000-60,000/ha than existing practice. B: C ratio is increased from 2.45 to 2.98.

Scope for commercialization : There is a very good scope for commercialization of the innovation as capsicum is a high value crop and its cultivation is increasing in the district. Further the practice involves less use of pesticide and lower cost of cultivation. Additional income can be achieved from maize plants.

Recognitions : Received State level award, 'Krishi Ratna'.

Message :

Farmers are encouraged to grow capsicum using this technique for better control of leaf curl disease to get higher return, at lesser cost and health hazards.

Tapioca Chopper

Personal Information

Name of the farmer	Shri Imtijungshi
Age	62 Years
Gender	Male
Complete Postal Address with village, mandal, district, state name and pin code	H.No. 234, Mangkotrong, Village - Ungma, Mokokchung, Nagaland - 798601
Educational Background	7th Standard
Telephone number (Residence)	-
Telephone number (Mobile)	09436205731
Email ID	-

Information on Innovation

Type of innovation : Manually Operated Tapioca Chopper

Specific group : Tuber crop: Tapioca - Machinery

Existing practice : The farmers use small metallic kitchen chopper to chop tapioca tubers.

Details of innovation : The Tapioca Chopper is a machine which is operated manually and does not need electricity for operating it. It is a handy tool for chopping tapioca tubers. Tapioca has become popular and occupies second position in terms of acreage and production in Mokokchung district of Nagaland. It has multipurpose utility. It is made of wood and iron sheets. It can chop 20 kg of tapioca into fine pieces in one hour.

Usefulness of innovation : The tapioca chopper is very effective tool to chop the tubers in a short span of time. It can be easily carried by one person and taken to the field where operations can be done. It is an affordable item which costs only Rs. 1500.

Impact : The farmers need not waste labour in carrying the bulky tubers from the field to their homes. Using this chopper the farmer can easily chop more than 20 kg of tubers in one hour. It can produce more than 3 times of the quantity compared to the usual system.

Adoption by others : In collaboration with APMC of the district the chopper has been provided to all the villages in the district and there is a great demand from individual farmers.

Scope for commercialization : It is already fabricated with the help of APMC for distribution in the surrounding villages of the district.

Recognitions : Recipient of Innovative Farmer Award of Nagaland by ATMA in 2010, Identified as innovative farmer by the ICAR

Documentation : Yes in Farm Innovators -2010 of ICAR

Message :

Tapioca is versatile crop that can be used for making a large number of value added products. The hand operated tapioca chopper can help the famers to chop the tubers to make chips and flakes.

Ultra High Density Planting in Cashew

Personal Information

Name of the farmer	Mrs. Sathyabhama
Age	54 Years
Gender	Female
Complete Postal Address with village, mandal, district, state name and pin code	Sarith Compound, Manchi Post, Bantwal, Dakshina Kannada, Karnataka - 574323
Educational Background	Primary School
Telephone number (Residence)	08255236335
Telephone number (Mobile)	8971284717
Email ID	-

Information on Innovation

Type of innovation : Ultra High Density Planting in Cashew

Specific group : Plantation crops: Cashew

Existing practice : Farmers plant cashew at normal density of planting at 8 m x 8 m which accommodates only 60-65 trees/acre. Under normal density planting, harvesting is done from the 2nd year of planting only.

Details of innovation : Ultra High Density Planting of Cashew at 3 m x 3 m spacing and High Density Planting at 5 m x 5 m spacing was introduced by the farmer in her village. The ultra high density planting of cashew adopted by the farmer accommodates 440trees/acre against 60-65 trees/acre under the traditional system. Varieties responding to pruning like VRI-3, Ullal-3 and NRCC Seln-2 are grown in this orchard. Harvest was done from the second year of planting itself. Trees are maintained in bush shape with heavy pruning at the end of harvest every year.

Usefulness of innovation : This innovation helped to realize income from the second year of planting itself. Plant population per unit area of land is increased and thereby high level of yields are realized from initial years itself.

In the second year itself the trees yielded above lkg/tree thus amounting to 4.4 qtl/acre. The farmer could realize upto 11 quintals of yield from 440 trees after 3 years of planting @ 2.5kg/ tree which will go upto 2.5 tonnes/ha in the third year of planting. This is otherwise not possible under normal density planting where only 60-65 trees/acre are accommodated and harvesting is done from 3rd yr.

Impact : Immediate monetary gains from first year of planting itself is the major benefit of this innovation. Since the technology is in field from 2010-11 onwards only, long term impact of the innovation is yet to be studied.

Adoption by others : More than 10 farmers have immediately adopted this method of planting after observing the results of Smt. Sathyabhama's orchard.

Commercial gains : The farmer could gain Rs. 82,500/- from 1 acre in the third year. This was preceded by Rs. 33,000/- and Rs. 45,000/- in the first and second years. The above returns are otherwise not available under normal density planting of cashew.

Scope for commercialization : Popularity of the technology is very high now in the region and farmers can realize high benefits from unit area utilizing this innovative method.

Recognitions : Simultaneously taken up by 2 farmers on technical guidance from Horticulture Scientist of DCR.

Message :

The waiting period for sustainable yield in traditional cashew cultivation is removed by this innovation. This innovation helps to realize income from the first year of planting itself. Plant population per unit area of land is increased and thereby high level of yield/ha are realized from initial years itself.

Oil Palm Based Cropping System

Personal Information

Name of the farmer	Shri P. Subba Rao
Age	70 Years
Gender	Male
Complete Postal Address with village, mandal, district, state name and pin code	Village - Remalle, Bapala Padu (Mandal), District - Krishna, Andhra Pradesh
Educational Background	Matriculation Rashtra Bhasha Praveena (Hindi)
Telephone number (Residence)	08654-242003
Telephone number (Mobile)	09848509326
Email ID	-

Information on Innovation

Type of innovation : Oil Palm Based Cropping System

Specific group : Plantation crop: Oil Palm

Existing practice : Oil palm is grown as a solo crop by the farmers even during the early stages of the crop. Shri P. Subba Rao an innovative farmer is involved in cultivation of crops like rice, cotton and chilli in red loamy soils having filter points as irrigation source.

Details of innovation : Shri. Subba Rao, introduced inter cropping with groundnut in oil palm. This has facilitated him to achieve an additional income in the early stages of oil palm up to 5 years. He further introduced micro-irrigation that saved 30 per cent of irrigation water. A substantial increase in girth of oil palm was observed while using vermicompost @ 50 kg/palm in two split doses at 6 months interval. These interventions helped him to achieve an increased yield of 20% as compared to the yield of other farmers who applied chemical fertilizers.

Usefulness of innovation : The interventions made by Shri Subba Rao are useful to utilize the land more effectively and profitably during the initial years.

Impact : Groundnut was grown as an inter crop in the early stages of oil palm up to 5 years using sprinkler irrigation. An average yield of 30 q/ ac was recorded. The innovative practice of inter cropping with groundnut in oil palm motivated the farmers to raise the other crops like chilli, vegetables in early stages of oil palm. Drip irrigation was introduced to increase water use efficiency there by decrease the cost of irrigation. The farmer saved 30 per cent of irrigation water besides fertigation. Weed infestation around the base of the palm was found to be low. An average yield of 8 t/ac was recorded as compared to flood irrigation (4-5 t/ ac) done by other farmers. The residue of groundnut crop was used for the preparation of vermicompost. Application of 50 kg of vermicompost helped in increasing the girth of the palm and weight of the bunches.

Adoption by others : Due to the service and guidance rendered by Sri. P. Subba Rao the oil palm cultivation has gone up to 3500 ha in red loamy soils of Krishna District under assured irrigation.

Commercial gains : The additional income realised from groundnut helped the farmer to meet the expenditure towards maintenance of oil palm garden till the bearing of productive bunches.

Scope for commercialization : The intervention made by Shri Subba Rao is based on intercropping in a perennial plantation crop. The intervention holds promise to generate additional income during the juvenile phase of the plantation crop.

Recognitions :

- President, Krishna District Oil Pam Farmers Welfare Association.(1992-94)
- Member AP State Agriculture Development Board (1994).
- President AP State Oil Pam Farmers Welfare Association (1995- 2008)
- President National Oil Palm Farmers Association (2008 till Date) etc.
- Identified as innovative farmer by the ICAR

Documentation : Yes in Farm Innovators -2010 of ICAR

Message :

Oil palm cultivation in Andhra Pradesh has increased in recent times due to establishment of huge industries for oil extraction. Therefore the farmers can now safely take up oil palm cultivation which is highly remunerative.

Instant Cooler for Tender Coconut Water

Personal Information

Name of the farmer	Shri M. Vinod
Age	42 Years
Gender	Male
Complete Postal Address with village, mandal, district, state name and pin code	Bheemasandra, Taluq - C.N. Halli, District - Tumkur, Karnataka
Educational Background	B.A.
Telephone number (Residence)	-
Telephone number (Mobile)	09448357536, 09972556749
Email ID	-

Information on Innovation

Type of innovation : Instant Cooler for Tender Coconut Water

Specific group : Plantation crop: Coconut

Existing practice : The tender coconut is stored in cool shady place to keep the nuts and the water inside cooler. Due to the bulky nature of the coconuts it not possible to refrigerate them as such. In some cases the coconuts are stored in bottle chillers to serve chilled coconut water. However there is no instant chiller available in the market.

Details of innovation : Tender coconut water cooler consists of 1.5' X 2.0' X 2.0' sized steel box, thermo coal pith/sheet, sand, ice cubes, soft plastic pipe, funnel, filter and tap. The steel box is insulated on the inner sides with thermo coal pith/sheet. The base of the box is filled with 0.5 feet sand layer. Large ice cubes are placed on the sand layer. Three meters of 0.5 inch soft plastic pipe is placed in between the sand layer and ice cubes. Tap is fixed at one end of the pipe and the funnel is attached with filter in another end of pipe. Fresh tender nut is cut opened and poured into funnel. Tender nut water gets filtered and slowly passes through the plastic pipe between sand and ice cubes and comes out through outlet tap as cool/chilled coconut water. Process takes one minute for one tender coconut.

Usefulness of innovation : The cooler provides instant chilled coconut water which is not available in the market under normal circumstances.

Impact : Developed cooler helps the farmers to sell chilled/cooled tender coconut water instantly that can get good price and avoid interference of middlemen. Further, it can be possible to add ingredients like ginger, masala powder etc. for taste.

Adoption by others : The devise is an instant success in his village. A number of farmers have expressed willingness to buy the units if they are available commercially.

Scope for commercialization : The product has excellent scope for commercialization.

Recognitions : Identified as innovative farmer by the ICAR

Documentation : Yes in Farm Innovators -2010 of ICAR

Message :

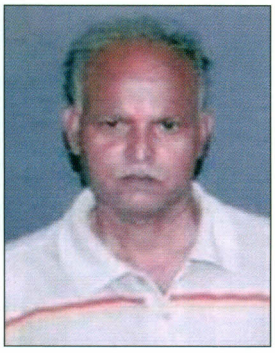
It is very rare to find chilled tender coconut water in the market except if it is tetra pack. This low cost chiller provides a low cost option for my fellow farmers to serve the chilled coconut water at a premium.

Alternate Year Pruning in Roses

Personal Information

Name of the farmer	Shri Gopal Krishan Saini
Age	58 Years
Gender	Male
Complete Postal Address with village, mandal, district, state name and pin code	Mohalla - Choudharan, Makarandnagar, Near Rajshri Talkies, District - Kannauj, Uttar Pradesh - 209725
Educational Background	Postgraduate
Telephone number (Residence)	-
Telephone number (Mobile)	09936986805
Email ID	-

Information on Innovation



Type of innovation : Alternate Year Pruning in Roses

Specific group : Floriculture: Rose

Existing practice : Pruning in roses is done every year in northern plains during October. The pruned plants flower in 50-60 days. Pruning and disposal of the plants is labour intensive and expensive.

Details of innovation : Training and pruning of rose is one of the most important practices which influence flower production significantly. In roses, this practice is recommended each year during mid October in which farmers get 12-14 t/ha flower yield per year. But Shri Gopal Krishna Saini has adopted an innovative practice of "alternate year pruning". In this practice, the crop is trained and pruned during the first year and kept un-pruned in second year. Through this practice, second year crop gives higher number of branches and flowers. Shri Saini could harvest 12-13 t/ha flower during the first year after pruning and 20-22 t/ha during the second year.

Usefulness of innovation : The innovative intervention has reduced the pruning cost and has doubled the production.

Impact : This technology is cost effective and more remunerative in the areas like Kannauj where distillation of flowers is commercially done for extracting essence and its marketing. The farmers could save the money and increase their profit.

Adoption by others : The farmers of his village are convinced about the practice and have adopted the innovation to reduce the pruning cost and to increase the yield.

Commercial gains : The innovative practice has reduced the pruning cost and doubled the yield of flowers with additional economic gain of Rs. 2.70 to 3.00 lakh in two years.

Recognitions : SAC Member of KVK , Identified as innovative farmer by the ICAR

Documentation : Yes in Farm Innovators -2010 of ICAR

Message :

Rose cultivation is labour intensive and expensive. It is important to minimize the cost of cultivation. Adopt alternate year pruning to minimize the cost, to increase the yield and returns.

Gladiolus Corm Cleaner cum Grader

Personal Information

Name of the farmer	Shri Gurpreet Singh Shergil
Age	43 Years
Gender	Male
Complete Postal Address with village, mandal, district, state name and pin code	Village: Manjhal Khurd Block, Bhunerheri Dist., Patiala, Punjab
Educational Background	Diploma in Mechanical Engg.
Telephone number (Residence)	-
Telephone number (Mobile)	9872624253
Email ID	-

Information on Innovation

Type of innovation : Machinery: Gladiolus Corm cleaner cum Grader.

Specific group : Floriculture: Gladiolus

Existing practice : Manual grading of gladioluses corm is very laborious and time consuming and mechanical graders are not readily available in the market.

Details of innovation :

- The farmer has designed and developed a self powered gladiolus corm cleaner- cum- grader which grades the corm in four different sizes in a single operation with zero percent loss. It can grade 7-8 quintals of gladiolus corms in one hour.
- He has also modified a groundnut digger to develop a gladiolus corm digger that can be operated by a tractor to harvest corms.

Usefulness of innovation :

- In case of gladiolus crop, choosing the right size of corm is very important for the quality of the crop. The corm cleaner-cum-grader that the farmer developed can grade corms in four different

sizes in a single operation with zero percent loss. It can grade 7-8 quintals of gladiolus corms in one hour.

- The ground nut digger which is available is modified to develop a gladiolus corm digger to make the process faster, easier and less laborious.

Impact : Cost of cultivation of various horticultural crops has decreased due to lesser expenditure on labour. Timely and mechanically performed operation leads to higher yield.

Adoption by others : Number of farmers engaged in floriculture approached the farmer for guidance and assistance regarding the new innovation.

Commercial gains : The horticultural crops adopted by him have given almost double the profit than the conventional field crops. From 5.6 acres of gladiolus the farmer earned Rs. 13 lakhs per annum last year.

Scope for commercialization : Commercialization of this grader-cum-cleaner will help in selection of proper size of the corm leading to uniformity of the crop. The gladiolus corm digger can provide a better option in terms of labour saving at the time of labour scarcity.

Recognitions : Honored with Chief Minister Award in the field of horticulture by PAU, Ludhiana at Kisan Mela held in March 2011 and ICAR, New Delhi with Jagjivan Ram Innovative Farmer award (Zonal)-2012,

Message :

Farmers should adopt horticultural crops as a better option for diversification to earn more income per unit area and to conserve the environment.

Micro Irrigation in Rose

Personal Information

Name of the farmer	Shri Parmar Ramsingbhai Kasnabhai
Age	34 Years
Gender	Male
Complete Postal Address with village, mandal, district, state name and pin code	Village & Post - Kamboi, Ta: Limkheda, Dist: Dahod, Gujarat
Educational Background	10th Standard
Telephone number (Residence)	-
Telephone number (Mobile)	+91-9979367617
Email ID	-

Information on Innovation

Type of innovation : Micro Irrigation in Rose

Specific group : Floriculture: Rose

Existing practice : The resource poor tribal farmers of Dahod district are constrained to adopt age old traditional systems of cultivation due to their economic situation and inadequate exposure to latest developments. They continue to cultivate maize, wheat, gram etc.

Details of innovation : Sh. Ramsingbhai established drip irrigation based rose cultivation with the help of NAIP-III project. Earlier, he was cultivating rose without drip irrigation system and earned Rs. 67,500.00 from 0.40 hectare land. After installation of drip irrigation system, he earned Rs. 1,26,000.00 from the same land and also saved the water up to 50 per cent. The quantity and quality of the rose is found good compared to traditional methods.

Usefulness of innovation : Drip irrigation is adopted extensively in areas of acute water scarcity and low rainfed conditions. The Tribal farmers used MIS in their field for the cultivation of flower crops and increasing net return.

Impact : Farmers of the area are motivated to adopt micro-irrigation system to save water in agriculture. There is an urgent need to adopt MIS, as water level is already going down at an alarming rate. So many farmers in the nearby villages are motivated and cultivation of rose with micro irrigation systems has increased in recent times.

Adoption by others : Farmers are being motivated to adopt micro-irrigation system in the area to save water in agriculture and popularizing drip irrigation system in the Dahod district.

Commercial gains : The farmers are receiving qualitative and quantitative agricultural production with higher income.

Scope for commercialization : MIS is already a well established commercial practice throughout the country.

Documentation : Nominated as the best farmer for improved practices in Vibrant Gujarat Global Agriculture Summit-2013 at Gandhinagar.

Message :

The performance of rose crop under drip irrigation system is better over the conventional flood irrigation. From the same unit of land I could double my farm income by MIS intervention. It is time for my fellow farmers to adopt MIS.

Modified Honey Extractor

Personal Information

Name of the farmer	Shri Priya Bandhu Pal
Age	44 Years
Gender	Male
Complete Postal Address with village, mandal, district, state name and pin code	Village Kariamora P/S. R. K. Pur, R.D. Block Matabari, South Tripura, Tripura, - 799114
Educational Background	6th Standard
Telephone number (Residence)	-
Telephone number (Mobile)	09612751652
Email ID	-

Information on Innovation

Type of innovation : Modified Honey Extractor

Specific group : Apiculture: Honey

Existing practice : Honey is normally extracted by hand or mechanically by using commercial grade extractor made of iron. Such commercial extractors are expensive and are available only at selected places.

Details of innovation : The main feature of the machine is that it is made of wood instead of iron as found in commercial machines. It consists of two gears, a bin made up of tin, wooden comb stand, GI wire net and a handle to rotate the comb stand. This honey extractor is cost effective and can be manufactured by using locally available materials like tin, wood, GI nets etc.

Usefulness of innovation : By the new extraction method the two major problems namely frequent damage of the comb and time consumed could be minimized up to a great extent.

Impact : With this machine farmers can harvest about 1.5 kg of honey per hour and about 25 kg of honey/year/colony costing about Rs 7000 as per local market rate.

Adoption by others : Only family members of the farmers are involved in honey extraction and the cost of extra labour is zero. Farmer can do the extraction without engaging any additional labour. Hence extraction of honey can be done when honey is ready for harvesting. Labour saving is about 80%.

Commercial gains : The cost benefit ratio in the first year is 1:2 and in the subsequent year expenditure is almost negligible and profit is about Rs 6000 per year per box with B:C Ratio of 1:6.

Scope for commercialization : The device developed is simple and can be fabricated locally. Scope exists for commercial production of the device as a small scale industry.

Recognitions : Identified as innovative farmer by the ICAR

Documentation : Yes in Farm Innovators -2010 of ICAR

Message :

Honey production is a viable and economic hobby that can be practiced by all the famers as a means of additional income to the farm family.