CROP IMPROVEMENT

Timely Seed Supply Enhanced Farmers Income

KVK Shimoga, Karnataka

Groundnut and rice productivity in Shimoga district is low due to non availability of quality seeds at right time. KVK Shimoga established seed villages through farmers participatory seed production in association with National Seed Project (NSP) of University of Agricultural Sciences, Bangalore. Pogramme was initiated in groundnut crop during summer 2003 by MOU with farmers to assure them about buy back agreement. According to MOU the selected farmers have to purchase nucleus seeds from NSP by paying Rs 4000/q. KVK imparted technical know-how and do-how through training among farmers and provided regular technical seed production guidance through field visits from time to time. Steps taken to maintain the purity of seed are (i) procured breeder seed from ARS, Honnavile, (ii) provided quality foundation seed to selected farmers, (iii) isolation distance maintained, (iv) timely roughing done and (v) provided seed certification by State Seed Certifying Agency. At the end, NSP purchased graded pods as per MOU.

It was attracted by farmers and area on groundnut seed production was extended to 10 ha during summer 2004. Seed production programme was then extended to rice crop during summer 2005 in an area of 50 ha and produced 2200 q of rice seeds of varieties viz., Jaya, Jyothi and MTU – 1001. Seed production of groundnut started with 2 ha in 2003 which increased to 52 ha at present, where as rice seed production increased from 50 ha in 2005 to 883 ha at present. Due to timely availability of quality seeds of rice, area sown expanded to 39622 ha. Due to seed production of groundnut and rice, additional net profit gained by the farmers was Rs 30000/ha and Rs 4625 to 7281/ha in different varieties of rice, respectively. Looking at the results, Government of India recognized Bullapura village as Seed Village during 2006 and supported with various facilities like paying Rs150/q of quality seed as an incentive to farmers who produce seeds. So far, farmers participatory seed production was established in 19 villages viz., Bullapura, Bedarahosahalli, Hanaswadi, Agasanahalli, Siriyur, Holehanasawadi, Barandur, Navile, Purale, Jayanthigrama, Dhadumghatta, Thimlapura, Hasudi, Honnavile, Belalkatte, Basavapura, Harobenavalli, Melinahanasawadi and Goravinakatte wherein 82 farmers involved in *kharif* and 43 farmers in *rabi.* Karnataka State Seed Corporation has taken up seed processing and marketing where as seed procurement and supply to farmers is being done by Department of Agriculture, Shimoga.

Salient Features

- Farmers have selected suitable varieties
- Farmers were made aware of about susceptible and resistant varieties towards specific pests and diseases
- Avoided 25-30% pest and disease incidence
- Farmers were learned about post harvest management
- Ensured timely supply of quality seeds
- Small farmers also participated in seed production

Dr H.K. Veeranna
Programme Coordinator
Krishi Vigyan Kendra, P.B. No. 71
Navile, District Shimoga - 577204

Email: kvkshimoga@yahoo.com
Ph: 08182-295516
Fax:08182-227946
M: 09440866938

Early Autumn Rice Cheers Farmers

KVK Nalbari, Assam

As flood is a regular phenomenon in Sungarbori village on the bank of Brahmaputra river in Nalbari district of Assam, there is no/less scope for cultivating winter/summer rice and hence farmers opted to grow *autumn* rice variety Jaya, which being a long duration crop, also was uncertain on account of flash floods, coupled with higher cultivation costs. To address both these issues, KVK Nalbari motivated and trained group of farmers for cultivating high yielding and short duration early *Ahu* rice (early *autumn* rice) variety Luit, developed by Assam Agricultural University, which is deemed to be compatible with the physical and socio-cultural and economic condition of the area. During 2006, trained group of farmers under the leadership of Shri Shahjahan Ali, cultivated the rice variety Luit in 32 ha under the technical guidance of KVK and could get a yield of 5-6 t/ha. During 2007, Shri Ali could supply 100 q of Luit seed to the Agriculture Department when a severe flood compelled the Department to procure and supply seeds of post flood short duration rice variety as an emergent relief measure to those farmers whose standing rice crop was lost in the flood. Luit being a short duration variety up to 110 days, it fits into their system avoiding the flood season till harvest, coupled with other positives such as lower irrigation and labour demand and good yield with better average net return than the traditionally cultivated variety of Jaya which was frequently destroyed by the recurring floods.

Salient Features

- Introduced short duration of 100 days early autumn rice variety Luit developed by Assam Agricultural University
- Rice variety Luit escaped flood and gave assured yield than traditionally cultivated Jaya rice variety
- Lower irrigation and labour demand of Luit variety, hence better profitability
- Rice variety Luit occupied an area of 1000 ha by 2009, replacing the less favourable and uncertain option of Jaya variety

The small and marginal farmers of the area suddenly see an assured livelihood option before them and the area under the variety Luit gradually expanded to 71 ha, 139 ha and 1000 ha during 2007, 2008 and 2009 in different pockets of the block, subdivision and finally the district, respectively, through the technology backstopping of KVK. Luit completely replaced Jaya in Barkhetri development block of the district which is a recurring flood hit area.

Dr Manoranjan Neog
Programme Coordinator
Krishi Vigyan Kendra, Sariahtoli
Distirct Nalbari-781337

Email: agriperson@gmail.com
Ph: 03624- 224837
M: 09435093577

Red Kernel Rice-Revati Succeeded

KVK North Goa, Goa

In Goa, rice is an important staple cereal crop and being grown in an area of 52801 ha with the production of 255974 t annually and productivity of 35.32q/ha. Productivity is major constraint due to use of poor quality seed, shattering habit in existing variety Jyoti resulting in less profitability. However, local preference for red kernel rice varaiety Jyoti is being traditionally cultivated in the state. With this background. During 2007-08, KVK North Goa, ICAR Research Complex for Goa introduced red kernel rice varariety Revati released by Regional Rice Research Station, Moncompu, Kerala, in village Dhulapi located 6 km from KVK. Revati not only is better yielder (43.4q/ha) but also non shattering which ultimately results in higher yield. Further there was no incidence of leaf folder, case worm and diseases like, bacterial blight and blast were noticed .It has spread in the village covering an area of over 8.0 ha besides spreading over more than 150 ha across the district within a span of 5 years substituting existing variety Jyoti and partial substitution of Jaya which were ruling earlier. Farmers grew Revati on an average of 0.1 ha per family in many cases. Expenditure incurred was Rs16500/ha and realised Rs 31750 as gross income with a net profit of Rs 15250/ha.

Revati has made farm families to increase their production and productivity per unit area. Farmers Club of Chorao got double the income through organic cultivation of the variety and adopting post harvest techniques like milling, packaging and branding by under the guidance of KVK. Chief Volunteer of the club was recently received an honour in this regard. With achieving these results, State Agricultural Department, Government of Goa included Revati under state rice minikit programme. Variety has spread in both the districts of North and South Goa and covered approximately more than 500 ha. Pre and post assessments indicated that the main factors such as low yield and shattering habit have been overcome by Revati and ultimately increased the yield of 33.1%.

Salient Features

- Revati variety of red kernel rice yielded 43.4q/ha as against existing yield of 32.69q/ha and gave a net profit of Rs 15250/ha
- Revati is non shattering type variety resulting in additional grain yield of approximately 10-11q/ha
- Introduced variety Revati meets the local preference for red kernel as well as raw and parboiled rice
- Enhanced head rice recovery due to bold grain

Smt Jyoti Dhulapkar(0832-2285513), Dhulapi-Goa, Mrs Geeta Gajanan Uscaikar (9921207514), Pandav wada- Chodan, Shri Darryl Pereira (9823074888), Saligao, Shri Candido Dias (9922728707), Taleigao are few among the successful farmers who are acting as contact farmers to fellow farmers in the district. KVK is continuously supporting farmers for imparting appropriate technical knowledge and arranging quality and timely seed.

Dr Raj Narayan
Programme Coordinator
Krishi Vigyan Kendra, Ela, Old Goa
Taluq Tiswadi, District North Goa-403402

Email: pckvknorthgoa@yahoo.com
Ph: 0832-2285475
Fax: 0832-2285475
M: 09766448827

Ragi Rewarded Farmers

KVK Tumkur, Karnataka

Ragi (*Eleusina coracana* L.) is main staple crop of Tumkur district and is cultivated in 1.2 lakh ha. However, its cultivation declined in the district in recent years owing to low productivity due to non-availability of quality seeds, poor management and scanty rainfall. At this situation, KVK Tumkur introduced high yielding ragi variety MR-6, which was released in 2004 by University of Agricultural Sciences, Bangalore, through an empowerment approach called as Appreciative Planning and Action (APA). It has six stages and each stage has distinctly different activities indicated by 6 D's viz., Discovery, Dream, Design, Delivery, Do it now and Discuss/Dialogue. With this approach, 10 ha area was brought under cultivation by MR-6 variety in 2005-06 followed by 80 ha in 2006-07, 125 ha in 2007-08, 350 ha in 2008-09 and now it occupied 525 ha through two seasons June-October as *Kharif* and January-February as summer in the district. Farmers gained a net income of Rs 22000 with Benefit Cost Ratio of 2.5 with ragi variety MR-6 under the technical guidance and monitoring of KVK.

It is noteworthy that one of the farmers Shri Malleshaiah from C.N. Halli taluq created a landmark in the history of ragi cultivation accounting 38.70 q/ha under rainfed condition followed by other farmers viz., Shri B.T. Kariyappa from C.N. Halli taluq, Shri M.Thimmappa from Turuvekere taluq, Shri H.R. Suresh, Shri D.C. Chikkabasappa from Tiptur taluq produced recordable yields of ragi 26.51, 35.51, 35.30 and 36.92 q/ha, respectively, for which they all got certificate of hounour from the Department of Agriculture, Tumkur. Shri Thimmaiah, Shri Kariyappa, Shri Siddalingaiah and Shri Mallesh were some of the interested farmers actively engaged in the process of disseminating the technology as master trainers and sold seed materials to their neighbours at doorstep.

Salient Features

- KVK empowered farmers through Appreciative Planning and Action
- Introduced ragi variety MR-6 which is more suitable for early sowing
- Achieved adoption of ragi variety MR-6 that gave 10-15% more yield as compared to MR-1, MR-2 and GPU-28
- Produced high quantity and quality of fodder through ragi variety MR-6 as compared to other varieties

Dr Y.N. Shivalingaiah
Krishi Vigyan Kendra, Konehalli
Taluq Tiptur, District Tumkur - 572202

Email: kvktumkur@gmail.com
Ph: 08134-294771
M: 09449866936

Maize Cultivation Changed Tribals Livelihood

KVK Bastar, Chhattisgarh

Bastar Plateau is having good agro climatic situation for maize production but the productivity of maize in the district is 1800 kg/ha. Local varieties, imbalance use of fertilizer, high incidence of insects, pests and diseases, poor management of soil, low fertility, unawareness of improved technology are the major problems associated with low productivity of maize in Bastar district. Keeping these problems in view, KVK Baster introduced improved varieties such as 30 R 77, 4643, Hycel for *kharif*, 30V92, 900M for *rabi* and 30V92, 900M, 4212 for *zaid* along with complete package of practices like proper spacing, and seed rate, sowing time, fertilizer application etc. Shri Sonuram from Jarebendri village of the district, a trainee of KVK adopted improved varieties of maize in his 1.0 ha of land and earned a net income of Rs 15840 in *kharif*, Rs 10850 in *rabi* and Rs 9453 in *zaid* seasons in a year. Further, productivity of maize has increased from 15.90 q/ha to 20.65 q/ha in farmers fields during the period from 2004-05 to 2008-09.

On the basis of last six years interventions in Bastar district by KVK, adoption of hybrids with full package of practices has been proved more beneficial than local practices for getting high returns per unit area under rainfed situation. Demonstrated technology has increased the average yield about 131.08 % over local varieties and practices. Since dissemination of technology, adoption of improved varieties of maize spread in 24715 ha and gave 444870 q maize production and Rs 373.69 lakh income in the district. Tribal farmers convinced with technology and adopting in a large scale. Technology has generated additional manpower of 384040 man days in the district. Technology has raised the standard of living by changing the skill and attitudes of the farmers from their traditional cultivation practices towards commercial production. This level of production meeting its growing demand for human food, animal and poultry feed as well as for industrial processing by the wet and dry millers to produce value added products with the present available technology.

Salient Features

- Introduced improved varieties along with complete package of practices including proper spacing and seed rate, sowing time, fertilizer application etc.
- Increased the average yield about 131.08 % over local practices
- Increased 24715 ha area with improved varieties of maize and produced 444870 q maize production in the district
- Generated additional employment of 384040 man days

Dr Shishir Chandra Mukharjee
Programme Coordinator
Krishi Vigyan Kendra, Kumharwand
District Bastar - 494005

Email: kvk_jagdalpur1@rediffmail.com
Ph: 07782-229071
Fax:07782-229160/229046
M: 09425585249

Groundnut Occupied River Bank Fallow Lands

KVK West Tripura, Tripura

In West Tripura district, requirement of groundnut is about 237 MT and to satisfy this demand, more than 250 ha is to be brought under groundnut considering average productivity of 950 kg/ha. Considering the importance, KVK West Tripura introduced HYV of groundnut ICGS-76 through FLD in few pockets of West Tripura district in 2008-2009.

Initially the programme was started with Sanghita Self Help Group consisting of 10 members. Owing to satisfactory performance and wide adaptability in the sandy soil of river bank of Samruchara, it was adopted by 32 farmers from six adjacent villages in the next *kharif* season in their fallow lands. Later they were trained on seed production of groundnut and they are being producing 1.0 t of seeds per season. Seed is being sold to the NGOs, Government Departments, private seed farms and fellow farmers of different villages.

Salient Features

- Used fallow land
- Followed latest cultivation practices
- Reduced tikka disease due to seed treatment
- Achieved optimum productivity and production
- Planned for seed production at farmers level
- Created awareness and provided technical support for adoption of groundnut in large scale in the district

Dr Pranab Dutta
Programme Coordinator
Krishi Vigyan Kendra
P.O. Chebri, Khowai, District West Tripura-799207

Email: pranabd1974@indiatimes.com
kvkwesttripura@yahoo.com
Ph: 03825- 222274
Fax: 03825- 222274
Ph: 03825- 222274 (R), M: 0986335190

Pure Bt. Cotton Seeds Brought Smile among Farmers

KVK Kheda, Gujarat

Bt. cotton raised through buying seed from local market was highly affected by *Heliothis, Spodoptera* and leaf curl virus in Gothak Lat village of Kheda district. This had resulted into low yield of cotton. Disgusted farmers shown their crop to KVK experts of Kheda. They noticed mixed type population with low flower formation and dropping of balls due to purchasing of poor quality seed from local market. This necessitated awareness campaign on Bt. cotton in the village and also villages of Kheda district.

KVK Kheda conducted demonstrations on pure Bt. cotton (VICH-15) in 40 ha belonging to 50 farmers of 4 villages under Technology Mission on Cotton Mini Mission-II during 2007-08. Arranged methyl parathion 2% dust for control of mealy bug, micro nutrient (MgSO4 and $FeSO_4$) and neem based bio-pesticides as critical inputs to farmers. Demonstrations were laid out with pure Bt. cotton seed along with Bt. cotton seed purchased from local market as control plot. Farmers were guided on micro nutrient and bio-pesticide application from time to time by KVK. Pure Bt. cotton seed crop produced an average yield of 42.0 q/ha whereas locally purchased Bt. cotton seed crop could produce only 15.75 q/ha.

Salient Features

- Bt. Cotton seed purchased in local market provided low yield due to mixed plant stand vulnerable to insect pest infestation
- Farmers obtained 162 % more yield by pure Bt. cotton (VICH-15) over control and gained 94 % more income
- Most of the area in Kheda district is under Bt. cotton now
- Technology improved socio-economic status of cotton growers in Kheda district

Cultivation of pure Bt. cotton under recommended package of practices provided a net profit of Rs 73500/ha, while it was just Rs 25000 in case of Bt. cotton grown with local seed. Farmers were highly convinced with pure Bt. cotton seed. Now many farmers in district Kheda have started cultivation of cotton with pure Bt. cotton seed under technical guidance of KVK, which has changed socio-economic conditions of cotton growers in Kheda district.

Shri Praveen Kumar Sharma
Programme Coordinator I/C
Krishi Vigyan Kendra, Dethali
District Kheda-378210

Email: drchandawat@rediffmail.com
Ph: 02694-287637
02633-260001 (R), M: 09427159810

Frenchbean Fetched Higher Profits

KVK Bangalore Rural, Karnataka

In Karnataka, frenchbean is cultivated in 9567 ha with the production of 106111 t annually. Rust and bacterial blight are the major diseases of frenchbean with which farmers loose profits every year. French bean variety Arka Anoop, not only better yielder but also resistant to rust and bacterial blight, released by Indian Institute of Horticultural Research, Bangalore was introduced by KVK Bangalore Rural during 2007-08 in the village Antrahalli, Doddaballapura taluk has fetched more returns to the farmers. Arka Anoop spread over 80 ha across the district within a short span of 2 years substituting local varieties and partial substitution of Arka Komal which was ruling earlier. Farmers grew Arka Anoop on an average of 0.4 ha per family in many cases. Expenditure incurred was Rs 72500/ha and realised Rs 222500 as gross income with a net profit of Rs 150000.

Arka Anoop has made farm families to increase their purchasing capacity as well as they could send their children to schools by paying their prescribed fee comfortably. Lot of behavioural changes such as confidence in the farming was achieved. Pre and post assessments indicated that the main factors such as resistant to diseases like rust and bacterial blight thereby reduced cost of cultivation in addition higher yields compared to other varieties contributed to the successful adoption of variety Arka Anoop from zero to 30%.

Salient Features

- Arka Anoop yielded 14 t/ha as against existing yield of 11.09 t/ha
- Gave net profit of Rs 1.5 lakh/ha
- Arka Anoop is a leguminous vegetable and suitable for crop rotation
- Requires less seed rate @45 kg/ha as compared to 50 kg/ha for other varieties
- Farmers obtained 30% more income
- Arka Anoop spread horizontally with around 80 ha

Smt Chennamma (09343766673) from Antrahalli village, Shri Siddalingachar (09242733386) from Antrahalli village, Shri Subramani (09972076865) from Hadonahalli village of Doddaballapura taluk in Bangalore Rural District are few among the successful farmers who are acting as contact farmers to fellow farmers in the district. KVK is supporting farmers not only by providing appropriate technical knowledge but also arranging quality and timely seeds.

Dr N. Rajanna
Programme Coordinator
Krishi Vigyan Kendra, Hadonahalli
Taluq Doddaballapur, District Bangalore Rural - 561203

Email: kvkbrd@gmail.com
Ph: 080-27652093/27652082
Fax: 080-27652082
080-23431823 (R), M: 09449866928/09448360023

Bengalgram Productivity Boosted with Variety JG-11

KVK Kurnool, Andhra Pradesh

In Andhra Pradesh, bengalgram is grown in 6.07 lakh ha with production of 8.57 lakh tones and productivity of 1437Kg/ha. In Kurnool district, bengalgram occupies 2.43 lakh ha (40 % of area in the state). It is mostly cultivated in vertisols under residual soil moisture regime with mono-cropping system in southern parts of the district covering Koilkuntla, Uyyalawada, Sanjamala, Dornipadu, Panyam and other mandals. KVK Kurnool introduced improved variety of bengalgram JG-11 in 2004 through organization of 16 training courses and 114 demonstrations. KVK also took up seed production programme at its farm and also procured seed from FLD farmers in seed chain programme and arranged 250q seed to other KVKs in the state as well as to farmers in the district and neighboring districts viz., Anantapur and Kadapa.

JG-11 along with agronomic practices like seed treatment with *Trichoderma viridae*, balanced fertilization etc., gave an increase in yield up to 22.9 % against existing local variety Annegiri under rainfed situations and up to 14 % under protective irrigation with an average yield of 20.75q/ha and 29.37q/ha, respectively. In a span of 5 years (2004-08), there was 100% replacement of local variety (Annegiri) in Kalugotla village of Koilakuntla mandal by JG-11. At present the area under JG-11 in Kurnool district is about 2.18 lakh ha.

Salient Features

- KVK introduced improved bengal gram variety JG-11 in 2004
- JG-11 characterized with purple stem, large leaflets, semi spreading with profuse branching, 36 cm plant height, 55 pods per plant, 100 seed wt 22.5 to 24 gms, matures in 97 days and tolerant to wilt as well drought
- JG-11 has large pod size and seeds are very bold with light brown and smooth
- JG-11 is being cultivated in 2.18 lakh ha in Kurnool district of Andhra Pradesh
- JG-11 boosted the productivity of bengal gram by 22.9% in rainfed situations and 14% under protective irrigation
- Achieved 100% bengalgram cultivation in Kalugotla village of Koilakuntla mandal byJG-11

Mrs G. Dhanalakshmi
Programme Coordinator
Krishi Vigyan Kendra, PO:Yagantipalli
Via:Banaganapalli, District Kurnool-518124

Email: pendekantikvk@rediffmail.com
Ph: 08515-227106
Fax: 08515-227106
08515-228205 (R); M: 09440607424

Tissue Culture Banana Plantation- A Boon

KVK Harda, Madhya Pradesh

Harda district in central Madhya Pradesh has acquired the tag of Mini Punjab due to bumper wheat production for the past few years coupled with Soybean as cash crop during monsoon season. Economy of the area has grown rapidly, but there is a dark side to this new prosperity. Mono cropping is slowly but surely making farmers of this area overly dependent on these two crops. Alert and educated farmers here are slowly realizing this situation and are opting for alternative cropping patterns.

With this background, KVK Harda introduced tissue culture banana through a series of activities. Shri Upendra Gadre (07573-230182) belonging to Timarni village of Harda district adopted tissue culture banana since 2005. He is cultivating banana as a cash crop for last five years and his experience has been very satisfactory. He planted tissue culture banana using drip irrigation. He is using tissue culture plants instead of traditional root shoot plants as they are more uniform in size and quality. He says tissue culture plants cost a bit more than traditional shoot plants, but in long run it is economically more viable. Though ground water is ample in the area, he is still using drip irrigation instead of flood irrigation as he saves expenditure and manpower by using drip irrigation system.

Salient Features

- Introduced tissue culture banana
- Observed uniformity in plant height and quality
- Banana plantation made soil porous and improved soaking quality
- Field crops were grown as filler crops
- Provided net annual income of Rs 192500
- Drip irrigation saved expenditure and manpower

After meeting the total cost of Rs 240000 of which Rs180000 in first year and Rs 60000 in second year, he got a net income of Rs 385000 during two years i.e. Rs. 192500 per annum. Banana plantation makes soil porous and the water soaking quality also improves. After 4 years of banana cultivation, he cultivated wheat and soybean in one of the banana fields last year and the results were more satisfactory.

Dr R.C. Sharma
Programme Coordinator
Krishi Vigyan Kendra, District Harda-461331

Email: kvkharda@rediffmail.com
Ph: 07577-226021
Fax:07577-226021
Ph: 07577-295603 (R), M: 09009801134

Perseverance Paid Farmer

KVK Ri-Bhoi, Meghalaya

KVK Ri-Bhoi introduced improved varieties of turmeric (RCT-1), ginger (Nadia), soybean (JS-335) and groundnut (ICGS-76) through frontline demonstrations in 2007. Organized a field day and showed the performance of these improved varieties to farmers and extension personnel.

Time and tides wait for none, this proverb holds good for Shri Francis of Bangla village in Umsning block. He was basically a ginger cultivator like any other Meghalaya farmer. Shri Francis adopted the varieties introduced by KVK besides other vegetable crops under the technical guidance of KVK. Consequently he raised his income from Rs 8000 to Rs 20000 per month.

Then, he never kept his land of 3.0 ha uncultivated like other fellow farmers. He has also modified his pig unit scientifically with the intervention of KVK. With the financial assistance from NABARD and technical support of KVK, Jalkund has been constructed in his field and he is utilizing the water for irrigating winter vegetables. He maintains harmonious relationship with his fellow farmers as well as officials and has visionary plan for intensifying agriculture and allied sectors in his farm.

Salient Features

- Obtained 30% increased yield of turmeric and ginger through improved varieties (RTC-1, Nadia)
- Introduced HYV of soybean (JS335) and groundnut (ICGS-76)
- Life saving irrigation to winter vegetables with the help of stored water in 30000 l capacity Jalkund
- Technical interventions increased 40% of monthly income of farmer

Dr R. Bordoloi
Programme Coordinator
Krishi Vigyan Kendra, Ri-Bhoi
KVK ICAR (RC) for NEH Region, Umiam

Email: pckvk@rediffmail.com
Ph: 0364-2570011
Fax:0364-2570011
M: 09436337276

Fodder Raising make Dairy Farmers Rich

KVK Vellore, Tamil Nadu

Majority of dairy farmers in Vellore district were small and marginal. They are depending on external source of feed which is readily available in the form of mixtures in market that lead to high maintenance cost and earns low income from dairy farming. With this background, KVK Vellore introduced Cumbu Napier Hybrid Fodder (Co (CN)4) grass during 2007-08. Special features of Co (CN)4 are profuse tillers of 25-30/clump, non lodging, ultra soft juicy stem (3.4 % brix), more leaf stem ratio, free from pest and diseases and superior rationing ability.

KVK conducted a series of activities for about 2 years continuously which includes organization of both on and off campus training courses on production technologies, supply of planting material as per the demand, organization of frontline demonstrations, organization of field days, group meetings, organization of sensitization meetings and interface between scientists, extension personnel and farmers for dissemination and adoption of Co (CN)4) as a fodder among dairy farmers.

Salient Features

- Increased awareness and adoption of Co(CN)4 among the dairy farmers
- Introduced Co(CN)4 as an intercrop in coconut gardens and backyards by many dairy farmers throughout the district
- Improved knowledge, skill, decision making and socio-economic condition of dairy farmers
- Increased average milk yield from 5.5 to 7.0 l/day/ animal
- Reduced 20-30% of external feed cost

Within a short span of two years about 250 dairy farmers adopted this fodder in more than 21 ha in the district. Co (CN 4) gave a recorded yield of 340 t/ha/year with a net income of Rs 66155.

Dr P. Sumathi
Programme Coordinator
Krishi Vigyan Kendra, Virinjipuram
District Vellore-632 104

Email: kvkvrinjipuram@tnau.ac.in
sumathiperiyasamy@yahoo.co.in
Ph: 0416-2914453
0416-2211700 (R), M: 09487520817

Rainfed Farmers Gained through Annual Moringa

KVK Ahmednagar, Maharashtra

More than 90% of the area is rainfed in Ahmednagar district of Maharashtra and receives an average annual rainfall of 400 mm. Farmers are adopting mono cropping and cultivating low income crops like sorghum, pearlmillet, pulses and soybean in *Kharif* and keeping the land fallow in post rainy season due to lack of irrigation facilities. KVK Ahmednagar introduced drumstick cultivation with improved variety PKM-1 in 1996 that thrives well in dry land areas.

Besides arranging seed and seedlings of variety PKM-1 initially, 36 demonstrations and 23 training programmes (923 farmers) were conducted by KVK. One state level seminar was conducted on commercial cultivation of drumstick. KVK prepared a CD on improved drumstick cultivation. Technique of pruning was standardized for exploiting the local and distant market demand. Further, KVK printed more than 20000 folders on drumstick production technology for the information of farmers. Success story was also given in the website of KVK.

Salient Features

- Introduced drumstick variety PKM-1 which is seed propagated, annual in habit and bushy in growth, green pods with fleshy, non-fibrous and non-bitter and weighs 160 grams/pod
- Observed low incidence of insect pest and disease
- Recorded high productivity (250-350 fruits / tree / year)
- Observed long shelf life of 10-12 days at room temperature
- Adopted widely by the farmers of Maharashtra

Due to intervention of KVK, 1612 farmers adopted drumstick cultivation in an area of 1482.4 ha in Ahmednagar district in particular and 6452 farmers in 4822.2 ha in different parts of Maharashtra in general. Variety PKM-1 yielded 72-80 q/ha in farmers fields and the highest yield recorded was 110 q/ha. Net income obtained

Dr Bhaskar Gaikwad
Programme Coordinator
Krishi Vigyan Kendra, PO: Babhaleshwar
Taluq Rahata, District Ahmednagar- 413737

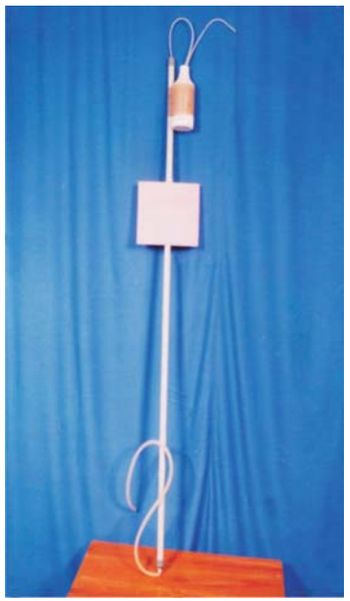
Email: kvkahmednagar@yahoo.com
gaikwadbh@yahoo.com
Ph: 02422-252414/253612
Fax:02422-253536
Ph: 02422-273232/273312/253235 (R), M:09822519260

Unproductive Date Palm Paid Dividend

KVK Porbandar, Gujarat

Naturally grown date palm in village Advana of district Porbandar do not bear fruits due to no pollination. Such date palms are abundantly available in 4-5 villages around Porbandar. Shri Laxambhai Odedra visited Kutchch once and observed that farmers are producing good quality of dates from such plants in Kutchch through manual pollination technique taught by KVK located at Kutchch in Porbandar district.

He discussed the problem with KVK and obtained training on pollination technique. KVK launched awareness camps on pollination technique with the help of Shri Laxambhai in village Advana. Pollination technique was taught to farmers and they did cross pollination to their unproductive date palms with an instrument designed by KVK. It is made up of PVC pipe attached with one bottle on one end and at another end attached one rubber pipe. Fill the bottle with pollen mixed with talkcom powder and then pollinate the female flowers by blowing air through mouth. Length of instrument can be adjusted depending upon height of the plant. Farmers were highly delighted when their unproductive date palms produced quality dates in bumper quantity of 100-200 kg dates from each palm which fetched an additional income of Rs 5000 to 10000 by selling at the rate of Rs 50/kg.



Salient Features

- Unproductive date palms were made productive through manual pollination technique taught by KVK
- Each plant provided an income of Rs 5000-10000
- Farmers of Advana and other 5 villages adopted the technology and raised their income
- Nutritious dates enriched the diet of local inhabitants

Inspired by success of Shri Laxmanbhai and other farmers purchased date palm seedlings from KVK and planted on the bunds of their farms and doing intercropping also. Farmers of other 5 villages have also learnt the pollination technique and produced quality dates which improved their income. Credit goes to Shri Laxam Bhai Odedra who taught pollination technique under the awareness campaign launched in collaboration with KVK .

Shri R.K. Oderdra
Programme Coordinator
Krishi Vigyan Kendra, JAU, Khapat
District Porbandar – 360579

Email: rkodedra@jau.in
Ph: 0286-2242416
M: 9825280843