SEED SPICES
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National Research Centre on Seed Spices

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DDG (Hort.) Launched the website www.isss.ind.in of seed spices society

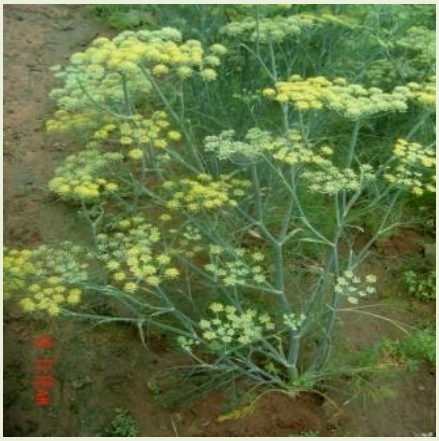
Dr. N K Krishna Kumar, DDG Horticulture and Chief Patron of the Indian Society of Seed Spices, Ajmer launched the website www.isss.ind.in. The International Journal of Seed Spices is now available online on the website of the society. On this occasion DDG (Hort.) congratulated the society, President, Dr. Singh efforts and the Editorial team for bringing all issues on time and good advancement of the society and its activities. He also extended his good wishes to website development team – Sh, M K Vishal, Dr. J K Ranjan and Dr. B. K. Mishra, Dr. Mehta (Secretary) and Dr. S. N. Saxena (Chief- Editor) for their efforts. Dr. Singh expressed his happiness of the launch and explained about the on-line submission facility of research paper. All issues are in open access mode for all users.

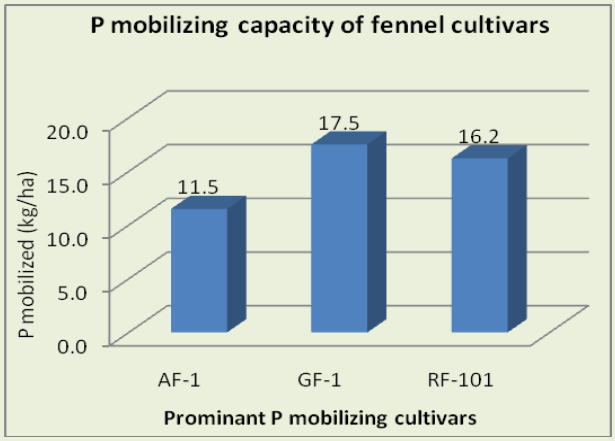


RESEARCH HIGHLIGHTS

Variable genotypic response for Phosphorous mobilization in fennel

Among the major nutrients, P plays a crucial role for the crop production. The major problem of phosphorus is its availability to plant. However, fennel may be one of the solutions to this problem as it mobilizes native phosphate into available P (Olsen-P). Some of the cultivars are having ability to mobilizes P beyond their requirement could be a boon for the succeeding or companion crops also. The mobilizing capacity of fennel is highest at young stage than the juvenile or growing beyond young stages. Some of the cultivars create conducive rhizospheric environment so as to grow microbial population, those responsible for the mobilization of native phosphate. Among the fennel varieties, GF-1 ranked first followed by RF-101 and AF-1 for their P mobilizing capacity. This may be an eco-friendly and minimum or zero energy input phosphorus management technology in fennel, which will also cope up against nature's wrath by shading load of chemical fertilizers and ultimately improving soil health. Further research efforts should be made for its quantification, fractionation and microbial populations under the diverse conditions.





O.P. Aishwath

Kisan Mela

राष्ट्रीय बीजीय मसाला अनुसंधान केन्द्र पर राष्ट्रीय बीज वितरण मेला एवं किसान संगोष्ठी का आयोजन

राष्ट्रीय बीजीय मसाला अनुसंधान केन्द्र, तबीजी, में अजमेर 28 सितम्बर 2013 को तीन दिवसीय राष्ट्रीय बीज वितरण मेला एवं किसाना संगोष्ठी का शुभारम्भ किया गया। मेले का उद्घाटन मुख्य अतिथि डॉ. ओ. पी. गिल, उपकुलपति, महाराणा प्रताप कृषि एवं प्रौद्योगिकी विश्वविद्यालय उदयपुर ने किया तथा समारोह की अध्यक्षता संस्थान के निदेशक डॉ. बलराज सिंह ने की। इस अवसर पर डॉ. राम गोपाल शर्मा, उपनिदेशक (कृषि), श्री राजेश कुमार, प्राचाय डी.ए.वी. महाविद्यालय विशिष्ट अतिथी के रूप में उपस्थित रहे। इस मेले में लगभग 1500 किसानों ने भाग लिया इसके अलावा मेले प्रांगण में किसानों की जानकारी के लिय लगभग 23 प्रदर्शनीयॉ भी लगायो गई। किसानों का प्रतिनिधित्व राजस्थान के अलावा बिहार, महाराष्ट तथा गुजरात राज्यों से भी रहा। उद्घाटन समारोह में संस्थान के निदेशक डॉ. बलराज सिंह ने संस्थान द्वारा किय जा रहे अनुसंधान काय की विस्तृत जानकारी दी तथा मेले तथा संगोष्ठी के आयोजन के मुख्य उद्देश्य की जानकारी दी। उन्होंने बताया कि इस संस्थान द्वारा पहली बार फसल की बुआई से पूर्व किसान मेले एवं संगोष्ठी का आयोजन तीन दिन के लिए किया जा रहा है, ताकि किसानों को अधिक से अधिक जानकारी प्राप्त हो सके तथा किसान अपनी समस्याओं एवं जिज्ञासाओं का हल प्राप्त कर सकें। उद्घाटन भाषण में डॉ. ओ. पी. गिल ने इतनी अधिक तादाद में किसानों के एकत्रित होने पर प्रसन्नता व्यक्त की, साथ ही बताया कि यह एकमात्र संस्थान है जो कि बीजीय मसाला फसलों पर अनुसंधान कर रहा है। उन्होनें समुचित खेती पर जोर देने की सिफारिश की तथा बताया कि किसानों को खेती के अलावा पशुपालन, मछलीपालन एवं मुर्गीपालन इत्यादि काय भी साथ में करने चाहिय।





Kisan Mela

मेले में बीजीय मसाला फसलों की जानकारी हेतु एक किसान संगोष्ठी का भी आयोजन किया गया जिसमें संस्थान के वैज्ञानिक तथा अन्य विशेषज्ञों ने बीजीय मसाला फसलों की उन्नत तकनीकी सम्बन्धित जानकारी किसान को दी तथा किसानों की कृषि सम्बन्धित समस्याओं का निराकरण उसी समय किया गया। इस अवसर पर 22 प्रगतिशील किसानों को प्रशंसा पत्र देकर पुरस्कृत भी किया गया। इस अवसर पर किसानों ने बागवानी, सब्जी एवं फल उत्पादन सम्बन्धी समस्याओं पर प्रश्न पूँछे जिनका विशेषज्ञों द्वारा समाधान किया गया। संगोष्ठी व कायशाला के माध्यम से राजस्थान व अन्य दूसरे प्रदेशों से आय हुए 225 कृषकों को पौधा किस्म और कृषक अधिकार, विभिन्न क्षेत्रो में कृषकों द्वारा संरक्षित स्थानीय किस्मों एवं बीजो, उनकी फसल सुधार में आवश्यकता तथा जैव विविधता आदि महत्वपूर्ण विषयों में जानकारी दी गई। इस चर्चा के दौरान किसानों को बताया गया कि किस प्रकार स्थानीय किस्मों के संरक्षण तथा उनका पौधा किस्म और कृषक अधिकार संरक्षण प्राधिकरण, भारत सरकार नई दिल्ली के यहॉ पंजीकरण कराने पर हर वर्ष देश से चयनित कृषको को पुरूस्कार भी दिय जाते है। इनमें पुरूस्कार की धनराशि 10.0 लाख रूपय तक होती है।





इस अवसर पर केन्द्र के निदेशक डॉ बलराज सिंह ने सभी किसानों को बधाई दी तथा बताया कि इस केन्द्र से किसान भाई जुडकर लाभ ले सकते है तथा अपनी समस्याओं का समाधान प्राप्त कर सकते है।

Trainings

Training on "Improved production technology of seed spices

Four training programmes (16-17, 18-19, 20-12 and 27-28 September, 2013) were conducted at NRCSS, Ajmer on Improved production technology of seed spices. Each two days training programme was comprised 30 men and women farmers participants from Javaja, Masuda, Silora, Srinagar, Kekari, Bhinai, Pisangan and Arai villages of Ajmer. Lecture were given by NRCSS faculty on improved varieties of seed spices, important insect, pest and diseases of seed spices their management, post harvests and value addition technologies. The training was sponsored by Project Director, ATMA, Ajmer.

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Trainings

Training on "Distinctiveness Uniformity and Stability" (DUS)

DUS (Distinctiveness Uniformity and Stability) project is going at NRCSS, under this project organised one day training entitle "Training-cum-Awareness Programme on Protection of Plant Variety & Farmers Rights" was sponsored by Protection of Plant Variety & Farmers Rights, Govt. of India, New Delhi and organised by National Research Centre on Seed Spices, Ajmer (Indian Council of Agricultural Research) on 30 September, 2013 at NRCSS, Ajmer. Chief guest of this function was Dr. Balraj Singh, Director, NRCSS, Ajmer and guest of honour was Dr. R. K. Kakani, Principal Scientist (Plant Breeding), NRCSS, Ajmer. The convener of this function was Dr. R. S. Meena, PI of DUS project. Co - conveners of this training were Dr. R. K. Kakani, Dr. Shardha Chuodhary and Dr. R. K. Solanki. Five lectures were delivered by different resource persons from the centre. Farmers were made awareness about the need of variety protection & farmers' rights as well as conservation of the landraces and biodiversity etc. Out of 101, 39 ladies farmers, 9 students, 2 agriculture supervisors and remaining were farmers, NGOs and scientists from different district of Rajasthan.





Trainings

Two days (30-31 October, 2013) intrastate training programme on 'Improved Production Technologies of Seed Spices'

A two day's training programme was organized for the farmers of Zila Parishad, Jaisalmer on 30 to 31 October at NRCSS, Ajmer under NHM. More than forty farmers were participated. There were fourteen lectures were scheduled on crop improvement, crop production, crop protection etc. Besides that lectures were also organized on storage of seed spices, protection of plant variety and farmer's right, off season seed spice crops and mechanization in seed spices. Technologies and farm implements were also shown at field level and their usages. The programme was patronage under Dr Balraj Singh, Director NRCSS, Ajmer and coordinated by Dr O.P. Aishwath and Dr J.K. Ranjan, Senior scientists, NRCSS, Ajmer with Mr Shubhash Chandra, Assistant Agriculture Officer and I/c Training, Rajmathai, Jaisalmer.



Trainings

Farmers training on Unnat Bijiya Masalon Ki Kheti under tribal sub plan

Four training programmes (16-17, 18-19, 20-12 and 27-28 September, 2013) were conducted at NRCSS, Ajmer on Improved production technology of seed spices. Each two days training programme was comprised 30 men and women farmers participants from Javaja, Masuda, Silora, Srinagar, Kekari, Bhinai, Pisangan and Arai villages of Ajmer. Lecture were given by NRCSS faculty on improved varieties of seed spices, important insect, pest and diseases of seed spices their management, post harvests and value addition technologies. The training was sponsored by Project Director, ATMA, Ajmer.

Three, one day farmers training on Unnat Bijiya Masalon Ki Kheti in Tribal district under Tribal sub Plan

Three one day farmers training programme on Unnat Bijya Masalon Ki Kheti were organized at KVK, Dungarpur, KVK, Banswara and KVK, Pratapgarh. On day farmers training on "**Bijya Masalo Ki Uunnat Kheti**" under tribal sub plan was organized at KVK, Dungarpur, in which 27 farmer of tribal area participated. Dr. S.N. Jha, Programme Coordinator KVK, was Chief Guest and Dr. G. Lal acted as president and Dr. R.S. Mehta, as training coordinator. After imparting training to farmers, 28 demonstrations on coriander (6) fenugreek (20) and nigella (2) were given to farmers. After completion of training, certificate to participant were given. Dr. G lal, Principal Scientist appraised about the role of seed spices for diversification of existing cropping system of tribal farmers. Dr. Netra Pal Singh, Joint Director (Animal husbandry) acted as chief guest. Dr. L.R. Meena Sr. Scientist, CSWRI, Avikanagar was the special guest and Dr. R.S. Mehta was training coordinator. After imparting training to farmers 28 demonstrations on coriander (3), fenugreek (23), Nigella (2), were given and technical bulletin on "Bijiya Masale" was distributed to farmers.

On 19/10/2013, training on **Bijya Masalon ki Unnat Kheti** under TSP at KVK Pratapgrah was organized in which Dr.G.Lal acted on President Dr. R.S. Meena as training coordinator and Dr. R. S. Mehta and Dr. Balbeer Badala, SMS, KVK associated in organizing the training.50 farmers participated in the training programme.

Trainings

Two days farmers training under NHM at KVK, Jhunjhun

Two days farmers training on "Enhancing production, productivity and quality of seeds spices in Sekhawati region" was organized on 7-8, November, 2013 at KVK, Jhunjhunu (Rajasthan).Dr. Hanuman Prasad, member, Farmers Commission. Govt of Rajasthan was the chief guest and Dr. Gajanand Yadav, Deputy Director (Agriculture), Jhunjhunu was the special guest and Dr S. R. S. Dange, Ex- Director Research SDAU, Sardarkrushinagar, Gujarat was the guest of honour of the inaugural function of the training programme Dr. R. S. Mehta, Sr. Scientist (Agronomy) Dr. R. S. Meena, Scientist (SS) Plant breeding and Dr. N. K. Meena, Scientist (SS) Entomology were subject matter specialist from NRCSS. Dr. R. S. Meena and Dr. N. K. Meena were co-coordinator of the training. In the training farmers were advised to adopt improved production technology of seed spices and organic seed spice production is the best way to get quality seed spice. Wide spaced seed spices viz. fennel and ajwain are the suitable seed spices which are well suited accommodating cabbage, carrot and knol khol as inter crops.

Training

Farmers training programme under NEH at College of Horticulture and Forestry, Pasighat (Arunachal Pradesh)

Two days farmers training on " Promotion of seed Spices production" in Arunachal Pradesh was organized under NEH on 18-19 November, 2013 at College of Horticulture and Forestry, Pasighat(Arunachal Pradesh) with an object to promote seed spice cultivation in non traditional seed spice growing area of North Eastern Hill region. Dr. A. K. Pandey, Dean, College of Horticulture and Forestry was the chief guest and Dr. G. Lal, Principal Scientist and Coordinator of the training programme presided over the session. He welcomed all the guests on dais, faculty and farmers participant. Dr. G. Lal appraised that it is necessary to diversify existing cropping system with the introduction of seed spices due immense possibility of higher productivity of seed spices in this region compared to traditional seed spice growing area. Dr. Mahesh Pathak, Programme Coordinator of KVK highlighted constraints and strength of seed spice production in NEH region. Dr A. K Pandey, Dean CHF and chief guest in his inaugural speech, he pointed out that the NEH region is having good potential. Looking to very low cost of production, low volume and high value and drought resistant nature of seed spices, there is immense possibility of seed spice production for enhancing income of the farmer with ecological compatibility. Dr. R.S. Mehta, Sr. Scientist appraised farmers in technical lecture that there are immense possibilities of high quality of organic seed spice production in Arunachal and long duration seed spices viz. fennel, ajwain and dill are well suited for introduction of short duration vegetable crops in between rows of these crops at the end of inaugural function. Dr. R.S. Meena, Scientist, Plant Breeding appraised about improved varieties of seed spices. Dr. N. K. Meena, Entomologist pointed out the pest problems in seed spices should be managed by integrated approaches to escape from pest damage. In valedictory function, Dr. S. D.Warade was the chief guest and Dr. Mahesh Pathak, was the guest of honor and Dr. G. Lal was the president of the function. Certificates of training participation, book on High Tech Seed Spice Production and demonstrations on coriander; fenugreek, ajwain and nigella were given to the farmers. Dr. M. M. Kumawat, Assist. Professor (Entomology) and Dr. Toge Riba,SMS (Plant Protection) from College of Horticulture and Forestry, Pasighat were Local Coordinator of the training programme.

Training

Two days farmers training programme under NEH at Regional Station CPCRI, Kahikuch, Guwahati (Assam)

National Research Centre on Seed Spices, Ajmer (Rajasthan) organized two days farmer's training on "Promotion of seed spice production in Assam at Central Plantation Crop Research Institute, Kahikuchi (Assam) on 21-22 November, 2013. In the inaugural function, Dr. N. K. Mohan, Ex. Chief Scientist, Horticultural Research Station, Assam Agricultural University was the chief guest and Dr. G.Lal, Principal Scientist over inaugural session of the training. Dr. G. C. Acharya, Head, Regional station, CPCRI, Kahikuchi, Assam was the guest of honour of the programme. Dr R.S. Mehta, Sr. Scientist and coordinator of the training programme welcomed all the guests on Dias, faculty and farmers participant.

Dr. G. Lal highlighted that looking to very low cost of production, low volume and high value and drought resistant nature of seed spices, there is immense possibility of seed spice production for enhancing income of the farmer with ecological compatibility. Dr. N. K. Mohan, chief guest in his inaugural speech, pointed out that seed spices are having very good medicinal value and some seed spices like coriander may be grown on conserved moisture under rain fed farming.

Dr. D. N Kolita Programme Coordinator KVK, Kamrup, Assam Agricultural University was the chief guest and Dr. G. C. Acharya, was the guest of honor and Dr. G. Lal was the president of the function. Certificates of training participation and book on High-Tech Seed Spice Production were given to farmers. Besides these demonstrations on coriander, fenugreek, ajwain, nigella and plastic crates for safe handling of seed spices were given to farmers.

of the training programming acted as

Seminars/ short courses Conducted

ICAR sponsored short course conducted

A ten days ICAR sponsored short course on "Hi-tech interventions in seed spice production for enhancing productivity, nutraceutical quality and value-addition" was conducted during 3 to 12 October, 2013. Eighteen participants from various ICAR institutes, State Agricultural Universities, State department of Agriculture and lectures from Agricultural colleges attended the course. The programme was inaugurated by Dr. Balraj Singh, Director, NRCSS and Course Director. In his inaugural address Dr. Singh highlighted the importance of seed spices in perspective of export demand. World demand of spices in general and seed spices in particular is increased due to increased popularity of seed spices in conventional as well as non conventional areas due to their use as pharmaceuticals, fragrances, flavour compounds, dyes, and agrochemicals. Even today, these metabolites are a major source of new drugs. Most of the seed spices are potential source of natural antioxidants. The people world over are trying to go back to nature thus demands more natural products to cure all kind of ailments. Moreover, the countries like Bulgaria for coriander, Syria for cumin, Egypt for fennel, Morocco for fenugreek are competing with higher yield per unit area. This is a great challenge for us to double our production within 5-10 years to keep our number one position as producer and exporter.





Seminars/ short courses Conducted

ICAR sponsored short course conducted

The course contained lectures on GAPS for seed spices, integrated approaches for nutrient, water and pest management, Conservation agriculture and protected cultivation, micro-irrigation, fertigation, soil and leaf based fertilizer management, sensor based application of agricultural inputs, possibilities of mechanization in seed spice cultivation, seed fortification in the form of seed priming and pelleting, artificial hybridization techniques and postharvest technologies including value addition in the form of grading, grinding and packaging in 30 classroom lectures and 06 lectures based on practical, visit of specialized area and demonstration of technologies.

The course was concluded on 12th October 2013. Dr. S. K. Malhotra, ADH (Hort.), ICAR and Commissioner (Hort.), GOI, New Delhi was the chief guest of valedictory function. Dr. Balraj Singh, Director, NRCSS presided over the function. Prof. G. N. Mathur, In-chrage, KVK, Ajmer was special guest of the function. Compendium of the lectures has been released by honorable guests.



Seminars/ short courses Conducted

Advancing Separation and Detection Seminar

One day seminar was conducted on advance separation techniques during the short course on 8th October 2013. The seminar was inaugurated by Dr. Balraj Singh, Director, NRCSS. Organizing Secretary Dr. S. N. Saxena highlighted the significance of this seminar to researchers and academicians. This seminar was jointly organized by NRCSS and Agilent Technologies, USA. This seminar cum workshop offered an excellent opportunity to discuss day to day challenges and hear from experts on the latest developments and benefits from innovations in high end analytical technologies. Experts from Agilent technologies, USA delivered classroom lectures and live demonstration on GC-MS. Apart from the participants of short course, NRCSS faculty, researchers from Academic Institutes like Central University Kishangarh, MDS University, Ajmer, Govt College Ajmer, Public Health Lab, Ajmer, JLN Medical College Ajmer, DAV College Ajmer also participated in this seminar.



Human Resource Development

Dr. Preeti Verma and Dr. I. S. Naruka awarded fellow of ISSS

Dr. Preeti Verma, Assistant Professor (Plant Breeding), Agricultural Research Station, MPUAT, Ummedganj Kota (Raj.) and Dr. I. S. Naruka, Assistant Professor (Horticulture), College of Horticulture, Mandsour, MP were awarded Fellow of Indian Society of Seed Spices, Ajmer for their outstanding contribution in seed spice research





A Modern Biocontrol Laboratory inaugurated

The Deputy Director General (Horticulture) inaugurated a modern biocontrol laboratory on 2nd of August, 2013. The biocontrol laboratory has established at centre under National Horticulture mission funded by Directorate of Areca nut and Spice Development Board, Calicut. The laboratory has facility for mass multiplication of soil antagonist *Trichoderma virdi*, entomofungal pathogen *Beauveria bassiana*, *Metarhizium anisopliae and Verticillium lacanii*, predator *Chrysoperla carnea* and egg parasitoides *Trichogramma* spp. The biocontrol agents have been distributed to more than 700 farmers under various projects.



Human Resource Development

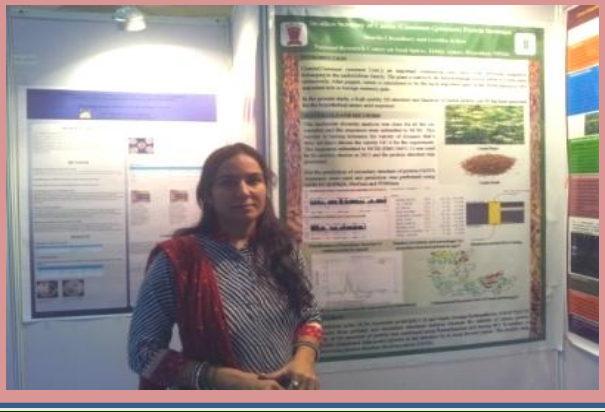
'78th Annual convention of Indian Society of Soil Science' and National Seminar held at Jodhpur

Dr O.P. Aishwath participated and presented a paper in Annual convention of Indian Society of Soil Science held from 23-26 October, 2013 at Central Arid Zone Research Institute, Jodhpur.. Dr O.P. Aishwath also contested for Councillorship of ISSS for the years 2014 & 2015. The vote counting was done during the symposium and declared the results. He was elected as a Councilor with a great majority.



International Conference Attended

Dr. Sharda Choudhary attended Indraprastha International Conference on Biotechnology-2013 (**IICB-2013**), held at **Guru Gobind Singh Indraprastha University, New Delhi, India from 22 to 25 October, 2013**. She presented poster entitled "IN-SILICO SCRUTINY OF CUMIN (CUMINUM CYMINUM) PROTEIN STRUCTURE



From the Director's Desk



NRCSS is heading fast to cater prominent technologies for betterment of seed spice growers. The start of 'National Beej Kisan Mela' at NRCSS is an new approach to provide a plateform for distributing quality seeds to farmers. Hope that in the coming times we may be able to increase the seed replacement rate of these crops. During the kharif season severe losses happened at the harvest time in the semi arid and arid parts of the country due to heavy rains in the months of September. Though these rains are blessing for the coming rabi crops, and it seems that area under the crops like cumin and coriander may increase in the Rajasthan State. Due to high climatic fluctuation happening in the past few years showers in the peak winter months creates cold stress for the seed spice crops. Increased level of humidity due to rains also enhances the changes of blight incidence. Therefore, application of prophylactic fungicidal sprays specifically in cumin is very much required for control of blight. Besides crop production, quality aspects are also of great significance, for which NRCSS is conducting numerous farmers training programmes to aware farmers about good agricultural practices and other crop production aspects to obtain high yield and to maintain better quality of the produce. To promote seed spice cultivation the centre has also initiated programmes in the north eastern and tribal area of the country. It is a matter of great pleasure for NRCSS as we are going to conduct the Regional Farmers Fair -2014 (West Zone) from 3-6th February at the centre. We are looking a head to make seed spice more remunerative and increase the prosperity of seed spice growers.

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