SEED SPICES
E - Newsletter
ICAR-National Research Centre on Seed Spices

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Important Events

1st Meeting of V - RAC (2-3 March, 2015)

The 1st Meeting of ifth Research Advisory Committee of ICAR- National Research Centre on Seed Spices (NRCSS), Tabiji, Ajmer was held at the centre on March 2-3, 2015 under the Chairmanship of Dr. B.B. Vashishtha, Ex-Director NRCSS, Ajmer. The other dignified RAC Members present in the meeting were Dr. M. Anandraj, Director IISR, Calicut; Dr. Jitendra Kumar, Director DMAPR, Anand; Dr. E.V.D. Sastry, Professor RARI, Durgapura; Dr. A.N. Maurya, Ex-Director, Institute of Agricultural Science, BHU, Varanasi; Dr. R.C. Dhadhich, Ex-Prof. & Head, Dept. of Agronomy, MPUAT, Udaipur. Dr Balraj Singh, Director, ICAR-NRCSS was Ex-Officio member and Dr. Gopal Lal, Principal Scientist was Member Secretary, RAC in the meeting. All the Scientists of the centre were also present in the meeting. Dr. Balraj Singh welcomed the Chairman and all the Members of the RAC. A brief presentation was made before the RAC members by Director and each scientist regarding the ongoing research programmes. The efforts placed by the centre were appreciated and further suggestion were given for betterment by the RAC members. Member Secretary Dr G lal gave vote of thanks to the members of RAC, Director NRCSS and other scientific staff of NRCSS for successful conduct of the meeting.



Dr. B.B. Vashishtha, Chairman, RAC & other members with scientists

Important Events

Comments and Recommendations made by RAC:

1. Inbred lines having desired characters should be used for heterosis breeding.
2. Molecular markers may be developed to identify different seed spices, varieties/ accessions.
3. Germplasm exchange through the established channels may be obtained to enhance genetic base of seed spices.
4. While making value added products the provisions of Food Safety and Standards Authority of India (FSSAI) may be confirmed.
5. The soil factors predisposing to *Fusarium* wilt may be elucidated. While working with newer isolates of PGPR the efficient isolates developed and tested for seed spices under AICRPS may be included as National check treatment.



RAC team during field visit at NRCSS

Sanitation and cleanliness programme under Swacch Bharat Abhiyan

Under National Campaign "Clean India Mission" of Govt. of India two well framed cleanliness programmes were conducted on 8th and 30th April, 2015 within & outside the premises under the leadership of Dr. Balraj Singh, Director of the centre and active participation of all the staff members of the centre was seen



Glimpse of clean NRCSS Mission

RESEARCH HIGHLIGHTS

New species of nematodes identified in cumin crop

Krishna Kant, Y K Sharma, Siya Ram Meena and A U Siddiqui

Nematodes are serious pest of many agricultural crops. Nematodes are reported to cause significant damage in important agricultural and horticultural crops. In a survey conducted for observing the insect pest population present on seed spices, nematodes complexes were observed in cumin roots of the sample collected from 18 villages across 5 development block of Ajmer district. Cumin plants suffering from nematodes infestation showed damaged, deformed root system as well as presence of knots on primary and secondary roots. The infestation was recorded at flowering stage, in early stages plant showed stubby roots and in later stage in highly infested plants roots epidermis shrinked and dried. After investigation and nematode identification studies three different species were found to be present in roots of infected cumin plants *viz.*, *Pratylenchus thornei*, *Hoplolaimus indicus* and *Meloidogyne incognita*. The nematode species *P. thornei and H. indicus* are reported for the first time in cumin field causing damage to the root system. In the infected fields cumin plants showed wilted symptom and had straw coloured or dried leaves. The nematode population was identified at Department of Nematology, MPUAT, Udaipur.

Table. 1 : Nematode species identified from cumin sample

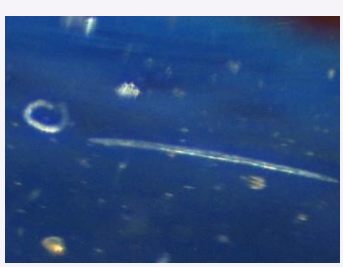
S. No.	Sample No.	Nematode Associated	No. of Galls / 5 gm Roots	No. of Nematodes / 10 ml. Suspension
1.	NRCSS - 1	*Meloidogyne incognita*	6	5
		Hoplolaimus indicus	-	2
		Pratylenchus thornei	-	1
2.	NRCSS – 2	*Meloidogyne incognita*	3	4
		Hoplolaimus indicus	-	2
		Pratylenchus thornei	-	1
3.	NRCSS – 3	*Meloidogyne incognita*	7	11
		Hoplolaimus indicus	-	3
4.	NRCSS - 4	*Meloidogyne indicus*	8	9
		Pratylenchus thornei	-	3
		Hoplolaimus indicus	-	1



Meloidogyne incognita



Hoplolaimus indicus



Pratylenchus thornei

Training on Biological control of pests and diseases of seed spice crops

A training programme on Management of Pest and Diseases in Seed Spices through Bio Control Agents" was organised in the Centre on March 11-12, 2015. Dr. Balraj Singh, Director, NRCSS inaugurated the training programme. The training programme was organised under DBT sponsored externally funded project "Management of pest and diseases of seed spices using biocontrol products through on farm demonstration at farmers fields".

The programme was focused on bringing awareness about non chemical methods of pests and disease management. The training consisted of efficient uses of different bio agents for higher efficacy under field conditions. Farmers were also trained on self preparation of botanical insecticides & their application in the field. In all 117 farmers of Rampura, Jaswantpura, Derathu, Pabuthan Lidi, Budhwara, Sanoat, Masuda and Ratakot of Ajmer district had participated in the programme.





Dr. Balraj Singh, Director delivering a lecture to the farmers in training programme

Farmers' training at KVK, Danta (SURE), Barmer

Two days farmers training programme was organized on "Post Harvest Technology and processing of Seed Spices for Value Addition" during 12-13 March, 2015 at KVK, Danta (SURE) Barmer, Rajasthan by NRCSS, Ajmer sponsored by Director, DASD Calicut under MIDH. Mr. K.L Verma, Deputy Director (Ag. Extension), Government of Rajasthan, Barmer was the Chief Guest of the inaugural function and he delivered a lecture on present scenario of production, productivity and medicinal value of seed spice crops especially in western Rajasthan. Dr. Gopal Lal (Pr. Scientist) presided over the function and delivered lectures on improved varieties of seed spices, post harvest management for value addition in seed spices and marketing & trade in the field of seed spices. He advised the growers to process the seed spices at farm level and sell them after grading and proper packaging to fetch higher price. He also advocated to adopt high yielding improved varieties for maximizing the yield. Dr. R. S. Mehta (Pr. Scientist) and Dr. N.K. Meena (Scientist) from NRCSS also participated in the programme & interacted with the farmers to adopt improved production technologies and plant protection measures, respectively. Dr. P. Pagaria, PC, KVK being the Guest of Honor of the programme also interacted with farmers and advised them to control the plant diseases in time with appropriate methods. Other scientist / SMS of KVK and Officers of State Department of Agriculture, Barmer also attended the programme and interacted with growers on different aspects of crop management in western Rajasthan. In valedictory function Dr. R. S. Mehta presented vote of thanks to all the participants, including Director NRCSS, Director DASD (for providing the facilities and financial support) and all other scientists who delivered lectures in this training programme.



Dr. Gopal Lal delivering a lecture in the Farmers Training at KVK Barmer



Dr. Gopal Lal presenting the training material to farm women at KVK Barmer

Five days training programme on 'Advanced Production technology of Seed Spices''

Five days training programme on "Advanced production technology of Seed Spices" was organized for the farmers at NRCSS, Ajmer through ATMA-Jodhpur, Rajasthan (16-20 March, 2014) . There were 28 lectures scheduled covering aspects of crop improvement, crop production, crop protection etc. Besides these lectures were also organized on storage of seed spices, protection of plant variety and farmer's right, off season seed spice crops, mechanization in seed spices, animal-husbandry, production & usage of azolla and manures. Practical's on technologies and their usage, like farm implements, azolla and production techniques (various manures) were demonstrated at field level. Besides experts from NRCSS, specialists from Agricultural University and Krishi Vigyan Kendra were also invited for delivering lectures on various aspects as per their expertise. The programme was conducted under the patronage of Dr Balraj Singh, Director NRCSS, Ajmer and coordinated by Dr O.P. Aishwath, Dr K. Kant and Dr. Sharda Choudhary, NRCSS, Ajmer with Project Director, ATMA-Jodhpur, Rajasthan.



Dr. O.P. Aishwath delivering a lecture in the Training at NRCSS campus to the farmers

Transfer of Technology

Kisan Mela's

Participation in Pusa Krishi Vigyan Mela at Pusa IARI, New Delhi

Indian Agricultural Research Institute, Pusa organized three days *Kisan Mela* on February 24-26, 2015. Mr. M.A. Khan, Assistant Chief Technical Officer and Mr. G.K. Tripathi, Sr. T.A. participated and exhibited the products & technologies developed at NRCSS, for the benefit of farmers. A good number of farmers visited NRCSS stall & many of the queries made by visiting farmers were clarified by the representatives of NRCSS along with the supporting literatures in the form of pamphlets.



Stall of NRCSS at IARI Pusa, New Delhi

Officials of NGO's and farmers from different states of the country interacted and showed interest to get training on seed spices cultivation. In this regard, they have been advised to send application to Director, NRCSS for making it convenient to organize training at different location .

Participation in Kisan Mela at KVK, Badgaon, Udaipur

NRCSS took active participation in two days *Kisan Mela* on (1st & 2nd March, 2015) organized by Vidya Bhawan Krishi Vigyan Kendra, Badgaon, Udaipur Rajasthan. Dr. Balraj Singh, Director being the special invitee attended the function and Mr. G.K. Tripathi, Sr. T.A. had participated & exhibited the products & technologies developed by the centre.



Farmer receiving token of appreciation from Dr. Balraj Singh, Director NRCSS-Ajmer

Human Resource Development

Training attended

❖Dr. Arvind Kumar Verma, Scientist participated in five days training programme on "Pre & Post Harvest Management Techniques for Seed Quality Assurance" during March 9-13, 2015 at National Seed Research and Training Centre, Varanasi, U.P.

Publications

❖Sharda Choudhary, R.S. Meena, Geetika Jethra, Radheshyam Sharma and Alka Panwar (2015). Optimized methodology for high quality DNA isolation from leaves and seeds of fennel (*Foeniculum vulgare*). Journal of Plant Development Sciences. Vol. 7 (2): 173-175.

❖Verma, R.P., Kumar, A., Verma, S.K., **Verma, A.** and Verma, P.K. (2015). Influence of nitrogen, planting geometry and corm size on vegetative growth and corm and cormel productionof gladiolus cv Nova Lux. *Environment & Ecology*, 33 (1): 199-201.

❖**Verma, A. K.** and Prasad, K.V. (2015). Morphological characterization of a novel mutant of chrysanthemum. *Bioinfolet*. 12 (1C): 285-287.

Symposia/seminars/conferences/meetings attended

❖Dr O.P. Aishwath attended the Councilors Meeting organized by Indian Society of Soil Science on 21 March , 2015 at Division of SSAC, IARI New Delhi.

❖Arvind Kumar Verma, Harisha C.B. and Honnappa Asangi Participated in the National Seminar on "Harmonizing Biodiversity and Climate Change: Challenges and Opportunities" during 17.04.2015 to 19.04.2015 at ICAR-CIARI, Port Blair, A&N Islands and presented oral paper entitled "Climate Change: Impact and Adaptive Strategies for Seed Spices" authored by Balraj Singh, Arvind K. Verma, Harisha, C. B. and Honnappa Asangi

❖Dr. S.S. Meena, Sr. Scientist (Horticulture) participated in National symposium on "Modern Agro-Technologies for Nutritional Security and Health" held during 21-23 April, 2015 at Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni, Solan (H.P.), India. Dr. S.S. Meena presented an oral paper entitled: *"Growth and yield of anise as influenced by nitrogen and phosphorus" on* 22nd April 2015 in the symposium & also acted as rapporteur of the technical session-Lead Paper Presentation *on* 21st April 2015 in the symposium

❖Dr. B.K. Mishra, Sr. Scientist (Microbiology) presented an oral paper in National Symposium on "Modern Agro-Technologies for Nutritional Security and Health" at Y.S. Parmar University Solan during 21-23 April, 2015.

❖Dr. Y.K. Sharma, Principal Scientist attended & participated in the 5th Annual Review Meeting of outreach project PHYTOFURA at ICAR-IISR, Calicut on 18th March, 2015.

❖Miss Seema Rani participated in National Conference on Mainstreaming Agro- Ecology held on 1st & 2nd March, 2015 at NITTR, Chandigarh and she presented poster paper entitled "Organic seed spices production: An agro-ecological farming" authored by R. S. Mehta, Seema Rani andBalraj Singh.

From the Director's Desk



March month ends Spring and clicks on the time for rabi crops maturity and their harvesting, likewise seed spices have also reached their end cycle in field and have marched a head to fruit seed yield. March month also signifies the end of financial year, NRCSS welcomes new financial year by imparting the pleasant aroma of seed spices all around the campus. These two months kept all the Scientists & Research Scholars on toes for taking field observations, the entire team was industrious and anticipative to witness the result of their scientific interventions on various farming problems of the region.

Unseasonal rain during the period, resultant of climate change led the farmers & Researchers of the region worried about the outcome of the crop & experiments, respectively.

The I meet of V RAC was housed at the centre on 2nd & 3rd of march, 2015. The presided RAC members critically went through the research agenda of the centre by witnessing scientific expository presentations of the project by respective scientists and came up with important commendable recommendations for further improvement of research programme at the centre.

A new record of nematode infestation has been found causing severe infestation on cumin crop. The problem was identified by the plant protection scientists of the centre.

During the period many on & off campus training programmes were organized by the centre and also actively participated in *Kisan Melas* organized by other institutes.

Positively contributing to the National Campaign "Swacch Bharat Abhiyan" launched by Hon'ble Prime Minister, Sh. Narendra Modi, the entire staff members of NRCSS actively carried out sanitation & cleanliness programmes in and around the institute premises.

My best wishes to all readers and any suggestions for improvement will be appreciated

Balraj Singh





RAC members seeing knowledge park and field crops of NRCSS