



AGRI NEWS



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LEMBUCHERRA, WEST TRIPURA, TRIPURA



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PROJECT MONITORING AND REVIEW COMMITTEE MEETING

~ M.Datta



A view of the PMRC meeting

Two projects on “Introduction of soil health card” and “Demonstration of agroforestry for organic food production” have been sanctioned by NABARD and the projects are in operation at Tripura Centre. Project Monitoring and Review Committee (PMRC) Meeting was held on the 30th September, 2008 in order to review the progress of the work undertaken in the said projects. The meeting being held under the chairmanship of Dr. N.P.Singh, Joint Director, ICAR was attended by Mr. Appathurai, NABARD, Drs M. Datta, B. Santosh and C. Datt of ICAR, Dr. A. S. Mailappa, College of Agriculture, Dr. S. K. De, Rubber Research Institute of India, Mr. A. Choudhury, NEDFI, Mr. A. Sinha, Forest Department and representatives from Farmers’ Club. In the meeting, the progress of both the projects was discussed elaborately. Till that date, 345 number of soil cards were prepared, 194 soil samples were analysed and 180 soil samples were in hand for analysis in soil health card project which covered 12 RD Blocks, namely; Dukli, Mohanpur, Hezamara, Jirania, Kalyanpur, Bishalgarh, Boxanagar, Melagarh, Kathalia and Agartala M/C under West Tripura district and Kakrabon and Matabari under South Tripura district. The progress in the project

'Demonstration of Agroforestry for Organic Food Production' was dealt with the cultivation of Pineapple, turmeric, bhindi, patchouli and black pepper in between different forest tree species including gamahar, teak, rubber, arecanut, etc. The meeting was followed by field visit by the team members.



A view of field visit
(Patchouli + Arecanut)

RESEARCH ACHIEVEMENTS

SOIL SCIENCE

APPRAISAL OF WATER QUALITY IN WEST TRIPURA

~ *M.Datta & N.P.Singh,*

Water samples were collected from different sources (Drinking/Irrigation/Pond) in West Tripura and thereafter analysed to find out the contents of some elements in order to assess the water quality parameter as population increase and overall developmental activities have resulted in the pollution of water in various ways. Total no. of water samples analysed are 28 in 9 blocks as well as in Agartala Municipal area. It is indicated that pH of water showed a variation from 6.11 to 7.68 and the maximum permissible pH is around 6.5 to 8.5. So, pH of drinking water in some places is not upto the permissible limit. Concentration of nitrate, phosphate, potassium and calcium in water samples varied from 1.0 to 7.2 mg/L, 0.04 to 1.43 mg/L, 0.09 to 2.24 mg/L and 0.64 to 11.48 mg/L, respectively. The limit of nitrate contamination in drinking water is 45 mg/L according to WHO . So, it can be said that water in West Tripura has less nitrate contamination thus indicating comparatively low use of fertilizer. Contents of microelements in water were also estimated. Contents of Zn, Cu, Mn and Fe varied from trace to 129, trace to 11, trace to 990 and trace to 4205 µg/L. According to WHO standard ,the maximum permissible limit for microelements in water is 5 mg/L (Zn), 0.2 mg/L (Cu), 2 mg/L (Mn) and 0.3 mg/L (Fe). Some of the water samples analysed are with high content of iron contamination.

PLANT PATHOLOGY

LEAF CURL DISEASE – A MENACE FOR TOMATO CULTIVATION IN TRIPURA

~ *S.Biswas, & N.P.Singh*

Tomato leaf curl, also known as 'Tomato yellow leaf curl' incited by Tomato yellow leaf curl virus (TYLCV) = Tomato leaf curl virus (ToLCV or TLCV), appeared as the major disease in Tripura during the recent years (2003-08). The disease is caused by a complex of Gemini viruses, family – Geminiviridae, genus – Begomovirus. It is characterized by severe leaf curling, shrinking of tomato leaves, with yellowish tinge in between veins and stunted growth (Fig. 1). The virus is transmitted by a vector white fly, viz., *Bemisia tabaci*. In a study it was found that during winter season the disease affected all the genotypes viz., 'Arka Abha', Arka Alok, BT-1, BT-10, BT-117-5-3-1, CKVT-17, H-24, Hisar Arun (Sel-7), Manikhamna (Sel-1), Sikkim Local, Tura Local and Type-1, under 'Tilla' land condition in Tripura, although its occurrence varied significantly amongst them. Of the varieties, H-24, Sikkim Local and Tura Local showed to some extent tolerant with 26.77 to 33.18% mean disease incidences, while, BT-1 was most susceptible with 86.30% disease incidence. The loss of fruit number and fruit yield was estimated in tagged plants affected by different disease intensities (healthy = no infection at the time of fruit setting, moderate = about 50% of the leaves of a plant shows curly symptoms and high = plants are severely affected showing 100% leaves with curly symptoms) of the disease during the year 2007-08. The results showed that fruit number and fruit weight decreased with the increase in intensity of the disease. The fruit number was decreased by 37.91% and 74.17% while the disease was moderate (50%) and high (100%), respectively. Similarly, the fruit yield decreased by 35.22% and 72.48% respectively, while the disease intensity was moderate and high. (Fig. 2). The disease is very difficult to control. However, uprooting and burning of early infested plant followed by spraying of dimethoate (0.1%) or monocrotophos ((0.1%) at 7 or 15 days, interval, respectively will be effective to control vector pest *Bemisia tabaci*.



Fig. 1 Leaf curl disease in tomato

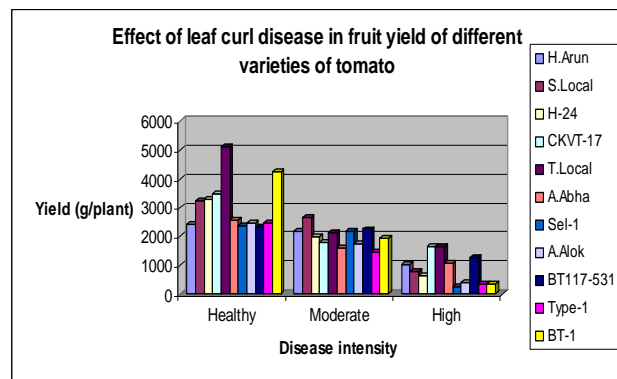


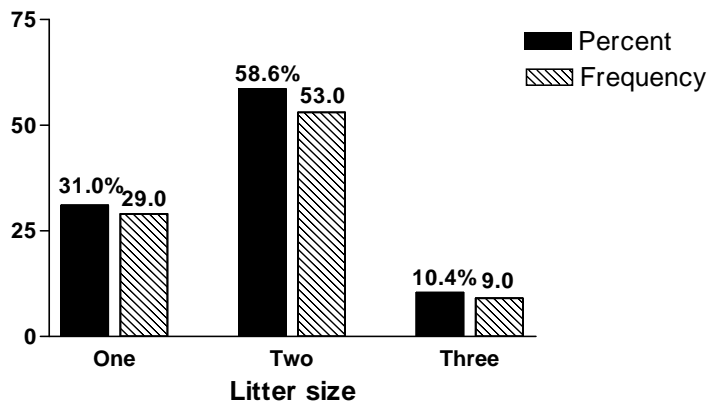
Fig. 2. Effect of leaf curl disease in fruit weight of tomato

ANIMAL REPRODUCTION

AGE OF DOES DURING MATING AND NUMBER OF KIDDING ALREADY EXPERIENCED DURING MATING INFLUENCE THE LITTER SIZE

~ A.Haldar, S.Paul & N.P.Singh

Observations on 112 Black Bengal goats in West and south Tripura revealed that the incidence of twin birth was highest (58.6%) followed by single birth (31.0%), while the chance of triplet birth was recorded to have only 10.4%. Mean comparison through one-way analysis of variance has detected that the higher age of does during mating or the more number of kidding already experienced during mating significantly influenced the higher ($p < 0.05$) incidence of twin births as compared to single birth, while the number of kidding already experienced during mating did not vary ($p > 0.05$) between the two groups having the litter sizes either twin or triplet.



Percent and frequency distribution of animals under different litter size groups

ANIMAL NUTRITION

NUTRITIONAL STRATA OF SOME UNDERUTILIZED VEGETABLES OF TRIPURA

~ Chander Datt, N.P.Singh & M.Sankaran

Underutilized vegetables are such vegetables which are consumed by local population of Tripura particularly by rural folk mainly tribals, however, their nutritional worth is not known and their potential as nutrient sources has not been realized. Several such vegetables ($n=10$) viz., *Lageraria siceraria* (Laav vines), *Centella asiatica* (Thankuni), *Oxalis corniculata* (Amrul sak), *Chenopodium album* (Bethua sak), *Amaranthus spinosus* (Kanta nutia), *A. viridis* (Jungli cholai), *A. caudatus* (Daata plant), *Boerrhavia diffusa* (Punarnaba), *Leucaena leucocephala* (subabool pods) and *Brassica campestris* (Lai patta) were evaluated for nutritional characteristics in terms of proximate principles and mineral composition. The dry matter content ranged from 10.65 to 22.25% averaging $15.89 \pm 1.41\%$. The levels of CP, EE, CF, NFE and total ash were found to be 16.64 ± 1.10 , 2.54 ± 0.24 , 15.89 ± 1.41 , 52.00 ± 1.39 and $13.03 \pm 1.22\%$, respectively. Protein concentration ranged from 10.87 to 23.33% while fibre level varied from 9.96 to 24.92. The average concentration (range in parenthesis) of Ca and P was observed to be 0.99 ± 0.19 (0.27-1.67) and 0.18 ± 0.03 % (0.05-0.42), respectively while those of Fe, Cu, Zn, Mn and Co averaged 201.8 ± 32.5 (62.1-346.1), 9.7 ± 2.1 (2.9-24.1), 67.6 ± 19.5 (11.5-245.4), 89.9 ± 16.4 (13.5-161.2) and 0.3 ± 0.04 (0.1-0.4) mg/kg dry matter, respectively.

POULTRY SCIENCE

EVALUATION OF TRIPURA INDIGENOUS POULTRY GERMLASM (DESHI BLACK)

~ *S.Malik & N.P.Singh,*

The evaluation of Tripura local indigenous Germplasm has been started from the month of April, 2008 as per the technical programme of AICRP on Poultry Breeding. The mean body weights of deshi black were measured at biweekly interval in both the sexes from day old to 20 weeks of age. The mean body weights at 12 weeks of age were : 620.79 ± 11.12 , 504.83 ± 7.68 and 545.76 ± 7.12 gms, respectively in case of male, female and pooled mean at the farm. The mean body weights at 20 weeks of age were : 1186.09 ± 25.46 , 1003.64 ± 13.99 and 1061.59 ± 13.55 gms., respectively in male, female and pooled mean. The mean body weights of Deshi Black were lower in comparison to all the stocks tested at this centre being the genetic make up of the indigenous germplasm.

PERFORMANCE OF CARI COLOURED BROILER SIRE AND DAM LINES

~ *S.Malik & N.P.Singh,*

The mean body weights of CARI Coloured broiler sire and dam lines were measured at 3, 4 and 5 weeks of age in both the sexes at farm. The mean body weights at 5 weeks of age were : 1034.06 ± 20.15 , 944.57 ± 16.29 and 973.17 ± 13.44 gms., respectively in case of male, female and pooled mean in sire line and the corresponding body weights at 5 weeks of age in case of dam line were: 856.06 ± 30.94 , 730.28 ± 11.35 and 757.05 ± 11.87 gms, respectively. The mean body weights are almost same from the last generation in case of Sire line but lower in case of Dam line. More over, the mean body weights in sire line were higher in all the age groups in comparison to dam line, since the sire line was developed for higher body weights.

EXTENSION ACTIVITIES

DISTRIBUTION OF POULTRY GERMLASM

~ *S.Malik & N.P.Singh,*

During the period, 800 chicks of 6 weeks of age of Gramapriya were distributed to farmers of Baghma, Baghbasa, Agartala and Holy Cross School, Agartala. The chicks were reared upto 6 weeks of age at the farm and distributed after vaccination to the deadly viral diseases to the farmers. A total of 233 Coloured broiler chicks were supplied to farmers of Joyram-modipara, Lembucherra and Bishalgarh.

SEMINAR/ SYMPOSIUM/ MEETING AND TRAINING ATTENDED BY THE SCIENTISTS

Dr. N.P. Singh, Joint Director

- ☆ Attended the training-cum-exposure visit on “Livelihood improvement of Rural People through Sustainable Tilla Land Integrated Aquaculture Innovation” (NAIP) at College of Fisheries, CAU, Lembucherra, West Tripura during 10-12th July, 2008.
- ☆ Attended the “National Fish Day” programme at College of Fisheries, CAU, Lembucherra on 11th July, 2008.
- ☆ Attended the orientation programme of Krishi Vigyan Kendra at ICAR Research Complex for NEH Region, Tripura Centre, Lembucherra on 16th July, 2008.
- ☆ Attended the programme on “District Agro Advisory Service” organized by Indian Meteorology Department, Ministry of Earth Science at Pragya Bhawan, Agartala on 19th July, 2008.
- ☆ Attended the closing ceremony of training programme as a chief guest on “Training and Demonstration of Composite Fish Culture” by NFDB, Hyderabad and organized by KVK, Birchandra Manu at Rural Development Block, Hrishyamuk, South Tripura during 30th July to 6th August, 2008.
- ☆ Attended a seminar on “Shifting cultivation : Present Status and Future Approaches” organized by Tribal Research Institute, Govt. of Tripura on the 9th August’ 08.
- ☆ Attended the technical programme on Seed Certification training programme organized by Department of Agriculture at SAMETI Hall, UGTC, Lembucherra, West Tripura on 20th August, 2008
- ☆ Attended the Executive Body Meeting of Horticulture Society of Tripura in Conference Hall, Secretariat Building, Govt. of Tripura, Agartala on 8th September, 2008.
- ☆ Attended the Governing Body Meeting of Tripura Biotechnology Council held at Circuit House, Agartala on 16th September, 2008.
- ☆ Attended the Executive Body Meeting of Tripura State Pollution Board at Vigyan Bhawan, Agartala on 22nd September, 2008.

- ☆ Attended the Seminar on “Climate Change” and delivered a presentation on the topic “Agricultural Productivity and Food Security Challenges” organized by CMS Environment, New Delhi at Agartala, Tripura on 27th September, 2008.
- ☆ Attended the programme on “Common Guidelines for Watershed Development Projects-2008 for State level Nodal Agency (SLNA)” organized by NRAA at SARS, A.D Nagar, Agartala, Tripura on 27th September, 2008.

Dr. M. Datta, Principal Scientist (Soil Science)

- ☆ Attended a programme on self sufficiency in fish production, organized by Department of Fisheries, Govt. of Tripura, 2nd July, 2008.
- ☆ Delivered a talk on “Overview of the farming system as a whole in the North Eastern Region in the training programme-cum exposure visit of NAIP farmers organized by College of Fisheries, Central Agricultural University on 10th July, 2008.
- ☆ Attended a meeting on District Level agro- meteorological advisory service, organized by India Meteorological Department, Govt.of India, Tripura on 19th July, 2008.
- ☆ Attended a seminar on “Shifting cultivation : Present Status and Future Approaches” organized by Tribal Rsearch Institute, Govt. of Tripura on 9th August, 2008.
- ☆ Delivered a talk on “ ICAR and Career Options to the Students of Holy Cross School, organized by “ Asha’, Lembucherra on 6th September, 2008.
- ☆ Delivered a talk on Status of Natural Resources (Climate, Soil and Water) in North East India, organized by Tripura State pollution Control Board and CMS (Vatavaran) at Agartala on 27th September, 2008.
- ☆ Delivered a talk on “Organic sources of Nutrition to Horticultural Crops” to Officers of Department of Agriculture, Govt. of Tripura, organized by ICAR in Technology Mission on Horticulture on 27th September, 2008.

Dr. S. Biswas, Sr.Scientist (Plant Pathology)

- ☆ Attended meeting with NABARD officials regarding ongoing projects and future programme at ICAR, Tripura Centre, on 11th July, 2008

- ☆ Attended 5 days Training-cum-workshop for Inspection Authorities of Eastern and North Eastern Regions on SOP for “Post Entry Quarantine” at Regional Plant Quarantine Station, Kolkata, West Bengal during 18th to 22nd August, 2008
- ☆ Attended Second Green Revolution Summit & Expo at Science City, Kolkata during 24-26th September, 2008.

Dr. A.Haldar, Sr.Scientist (Animal Reproduction)

- ☆ Attended as resource person in the training programme on ‘Livelihood improvement of rural people through sustainable tillage land integrated aquaculture innovation’ under NAIP, component 3, organized by College of Fisheries, Lembucherra on 11th July, 2008.
- ☆ Attended the Interface meeting on ‘ District level integrated agro-met advisory services’ at ICAR Research Complex, Tripura Centre on 22nd August, 2008.
- ☆ Attended the Disciplinary Committee Meeting of Animal Science Discipline at ICAR Research Complex for NEH Region, Barapani on 11th and 12th September, 2008.
- ☆ Attended and deliver lecture on ‘ Repeat breeding problem in cattle with special reference to nutritional deficiency and hormonal imbalance’ organized by Tripura Veterinary Council, Astabal, Agartala on 28th September, 2008.

Dr. S.Malik, Sr.Scientist (Poultry Science)

- ☆ Attended the programme on “District Agro Advisory Service” organized by Indian Meteorology Department, Ministry of Earth Science at Pragma Bhawan, Agartala on 19th July, 2008.
- ☆ Attended a seminar on “Shifting cultivation : Present Status and Future Approaches” organized by Tribal Research Institute, Govt. of Tripura on the 9th August’ 08.
- ☆ Attended Disciplinary Committee meeting at ICAR Research Complex for NEH Region, Barapani (Meghalaya). The meeting was organized by Division of Animal Production, ICAR Research Complex for NEH Region, Barapani (Meghalaya) during 11 to 12th September, 2008

Dr. Chander Datt, Scientist (Animal Nutrition)

- ☆ Attended the “First District Level Agromet Advisory Service Meeting for the State of Tripura” held at Pragna Bhawan, Pandit Nehru Complex, Gurkhabasti, Agartala on 19th July, 2008.
- ☆ Attended an Interface Meeting on “District Level Integrated Agromet Advisory Services” held at ICAR Research Complex for NEH Region, Tripura Centre, Lembucherra-793103 Tripura (w) on 22nd August 2008.



FARM & CENTRE VISIT

- Thirty farmers from Agri. Sub-division, Bishramganj, Tripura under I.W.D.P visited on July 16, 2008.
- Thirty five farmers from Agri. Sub-division, Bishramganj, Tripura under I.W.D.P visited on July 21, 2008.
- Forty five farmers from Udaipur, South Tripura under NFDB programme visited on September 2, 2008.
- Fifty farmers from Udaipur, South Tripura under NFDB programme visited on September 4, 2008.

DISTINGUISHED VISITORS

- ❁ **Prof. A.N.Rai, Vice-Chancellor, Mizoram University, Aizawl-796009 visited on July 31, 2008.**
- ❁ **Dr.Daljeet Singh, Director, Planning Commission, New Delhi visited on August 21, 2008.**
- ❁ **Prof. Vishal Nath, Head, CHES, Bhubaneswar visited on August 27, 2008.**
- ❁ **Shri Balaram Shil, Commandant, 173 BN CRPF, Agartala, Tripura visited on September 2, 2008.**
- ❁ **Dr.Mukund Variar, Principal Scientist, CRURRS, Hazaribag-825 301, Jharkhand visited on September 24, 2008.**
- ❁ **Dr.Dipankar Maiti, PS, CRURRS, Hazaribag-825 301, Jharkhand visited on September 24, 2008.**
- ❁ **Dr. A.L.Singh, Principal Scientist, National Research Centre for Groundnut. P.B – 5. Junagarh. Guirat visited on September 30.**



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