

Directorate of Extension Education

Navsari Agricultural University

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To,
All Members of ZREAC

Please find enclosed herewith proceedings of the eighteenth meeting of ZONAL RESEARCH AND EXTENSION ATION COMMITTEE MEETING of Navsari Agricultural University held on 18th February, 2013.

All the concerned members are requested to take necessary actions on the items pertaining to them and send the action taken report on e-mail: tvs@nau.in or to the undersigned within a week.

Director of Extension Education

Encl.: a/a

CC for information to:

1. Director of Agriculture/ Horticulture/Animal Husbandry, Gandhinagar
2. Zonal Coordinator, Zone No.6, ICAR, CAZRI, Jodhpur (Rajasthan)
3. Director of Research, NAU, Navsari
4. Principal, NMCA/ACOHF/CVSAH/ABM, Navsari
5. Jt. Director of Agriculture (Extension), Surat/Baroda

**PROCEEDING OF THE EIGHTEENTH MEETING OF
ZONAL RESEARCH AND EXTENSION ACTION COMMITTEE
HELD ON 18TH FEBRUARY, 2013 AT NAVSARI**

The meeting was started with the warm verbal welcome by Dr. H. J. Derashri, Director of Extension education, NAU, Navsari followed by floral welcome of dignitaries.

Sh. M. B. Patel, JDA, Surat stated that we should take positive steps to sustain the existing growth rate of Gujarat state. He also appreciated the improved/hybrid of crops recommended by university research system.

Dr. A.N. Sabalpara, Director of Research, in his introductory speech stated that the research system should be reformed as per agro-climatic changes and needs of the farmers and market. He also emphasized that the new technical programmes in Agresco must be based on feedback of ZREAC.

Dr. A.R. Pathak, Hon. Vice-chancellor, NAU, Navsari in his presidential speech emphasized on cluster base testing of agricultural research recommendations. He also stated that the number of adaptive trials should be increased. There should be a live coordination between line department and university extension and research system. He also requested to line department for extension of bio-fertilizer for soil sustainability. Dr Pathak also requested to the officers of the line department to take positive and result oriented steps regarding Agro ITI courses run by Navsari Agricultural University.

18.1 Presentation of Action Taken Report

Action taken report on the proceedings of 16th ZREAC meeting held on Feb. 23, 2012 was presented by the Director of Extension Education, NAU, Navsari which was approved by the house. Officers from line Departments were requested to send the action taken report timely.

18.2 Presentation of Feedback/Farm trials by Officers from Line Departments

18.2.1 DAO, Navsari

Concerned officer presented the report of Navsari districted which included brief information of land use pattern, number and area of operational holdings, rainfall pattern, area and production of important crops including horticultural crops, selling of seeds, use of agro-chemicals and fertilizers, data of poha production, information of RKVY programmes, farm trials and feed back.

Farm trials

18.2.1.1 Effect of bio-fertilizer (mycorrhiza) on paddy yield

Take Azotobacter + Mycorrhiza treatment

18.2.1.2 Comparative performance of hybrid rice and improved variety under SRI method

18.2.1.3 Impact of micronutrient application on sugarcane yield. (Var. CoN 0571)

Response to micronutrient application can be expected if soil is deficient in micronutrients. Hence, soil test is necessary.

18.2.1.4 Effect of mycorrhiza seed treatment on summer mung yield

Take Rhizobium + Mycorrhiza treatment. If needed training will be given by the University for Mycorrhiza trials.

(Action : DAO, Navsari)

Feedback

18.2.1.4 Virus problems in bitter gourd crop in chikhli area, so permanent measures required to

check it

18.2.1.5 Virus problem in chilli crop

For virus problem in vegetables, a field visit may be arranged. Farmers should be advised for vector control as most of the virus diseases are transmitted by vectors. If required, a training programme can be arranged on control of virus diseases.

18.2.1.6 In wheat crop, white earhead, dead heart problem

This could be due to weather and climatic conditions.

18.2.1.7 More information regarding mycorrhizal bio-fertilizer utilization

Included under 18.2.1.4.

18.2.1.8 More information for vegetable crops in vansda and chikhli region

Information was given on suitable vegetable crops and their varieties. In case of okra, recently recommended Anand Okra-5 is a good one. It was also suggested to increase seed production of this variety.

(**Action** : Prof. (Vegetable), ACHF, Navsari and Nodal Officer (Mega Seed), Navsari)

18.2.1.9 Due to Scarcity of labours, mechanical harvesting of paddy is done by farmers. So there is need to conduct experiment on mechanical paddy harvester to reduced wastage of produce and cost of cultivation.

Fine adjustments are needed according to moisture content and variety, which is very difficult. Farmers should be advised for drying of produce, cleaning and grading. Professor (Agril. Engineering) should be called at the time of harvesting.

18.2.2 DAO, Valsad

Report of Valsad district included information of rainfall, crop area, results of farm trials conducted during last year, planning of farm trials and few points of feedback.

Farm trials

18.2.2.1 Comparison between hybrid rice and NAUR-1 variety

18.2.2.2 Comparison between SRI method and conventional method

18.2.2.3 Comparison between GR-11 and GNR-2 paddy varieties under salt affected soils

18.2.2.4 Comparison between GR-7 and NVSR-178 paddy varieties under rainfed transplanting condition

(**Action** : DAO, Valsad)

Feedback

18.2.2.5 Feasibility of pruning in sapota

There is no recommendation of pruning in sapota but experiment on heading back is to be initiated.

18.2.2.6 Early maturing variety of pigeonepa

Early maturing varieties as compared to Vaishali are in trials

18.2.3 DAO, Dangs

Report of Dangs district included brief information of land use pattern, number and area of operational holdings, rainfall pattern, area and production of important crops, and results of farm trials conducted during *kharif* 2012

18.2.3.1 Farm trials

As suggested in 14th ZREAC meeting, farm trials on Paddy, Ragi, Niger and SIRA method of paddy were proposed.

(Action: Asstt. Director, Horticulture, Dangs)

18.2.4 Horticulture, Dangs

This report included horticulture activities carried out in Dangs district.

Sanjaybhai, a progressive farmer suggested that cultivation of *Bila* and Black *Jamun* in Dains district could be remunerative.

V-7 variety of cashewnut should be included in plantation.

Farm trial should be framed on control measures of tea mosquito pest.

(Action : DAO, Navsari)

18.2.5 DAO, Surat

Concerned officer presented the report of Surat district which included the information of rainfall, area and production of different crops, results of far trials conducted during last *kharif* season, planning of farm trials for ensuing *kharif* season and feedback.

Farm trials

18.2.5.1 Effect of micronutrients and biofertilizer on yield of paddy variety GNR-2

18.2.5.2 IPM in pigeonpea variety Vaishali

18.2.5.3 INM in soybean

(Action : DAO, Surat)

Feedback

18.2.5.4 Recommendation of *kharif* crops in context to late onset of monsoon in south Gujarat

Contingency planning should be followed.

18.2.5.5 Recommendations on INM and irrigation requirements of turmeric

University has already made recommendations on these aspects. Detailed information could be obtained from Res. Sci. (Soil & Water), SWMRU, Navsari.

18.2.5.6 Increased use of mixed fertilizer in place of DAP fertilizer

There is no need to conduct field experiments on use of fertilizer grades. They are source of nutrients and should be used keeping in view the nutrient content of these fertilizers and recommended dose of fertilizer for particular crop. Blanket use of these fertilizers may increase the cost of cultivation.

18.2.5.7 Recommendations on soybean crop

Research work has been initiated on soybean crop. JS-335 is popular variety as there is problem of shattering in Gujarat Soybean-2 variety.

18.2.6 Horticulture, Surat

The report from Deputy Director of Horticulture, Surat included the information on area-production of fruit, vegetable, flower and spice crops, protected cultivation and field observation of the current year.

Feedback

18.2.6.1 Research and training on appropriate bahar, pruning, fertigation, pest control, etc for pomegranate crop

Pomegranate is not suitable crop for our agro-climatic zones. Hence, research is not required in pomegranate. If required, the University will give training.

- 18.2.6.2 More research and demonstration should be done on season wise crop diversity in net house

University has made some recommendations and more work is in progress. Information was given on net house cultivation.

18.2.7 DAO, Bharuch

Information on land use pattern, rainfall, area-production and feedback were presented by officer concerned.

Feedback

- 18.2.7.1 In Bharuch district, rainfed and irrigated Bt cotton varieties are grown in large scale. Hence, there is need to recommend package of practices for Bt cotton

University has made some recommendations and more work is in progress.

- 18.2.7.2 Cause and remedial measures for deformation of cotton leaves in industrial area of Dahej in Vagra taluka

A team has visited the area. Report is to be prepared by the Department.

- 18.2.7.3 Problem of pig and blue bull (nilgai)

Research is not required.

18.2.8 Horticulture, Bharuch

The report included data of area and production of fruit, flower and vegetable crops, information of clusters and field observations.

Feedback

- 18.2.8.1 Pomegranate and date palm have been introduced as a new crop in Valia and Ankleshwar block of Bharuch district. So research and demonstration should be done on pomegranate and date palm crop

Pomegranate and date palm are not suitable crop for our agro-climatic zones. These are the crops of arid and semi-arid regions. Hence, research is not required.

- 18.2.8.2 As people of Bharuch district wants to know for suitable crop for net house, so demonstration should be required on research station situated at NAU, Bharuch

University has made some recommendations and more work is in progress. Information was given on net house cultivation. If feasible, net house demonstration will be arranged at research station.

18.2.9 DAO, Narmada

Information regarding land use pattern, irrigated area, rainfall, area and production of important crops, extension activities, results of farm trials, planning of farm trials and feedback were included in the report and presented.

Farm trials

- 18.2.9.1 IPM in cotton
 18.2.9.2 INM in cotton
 18.2.9.3 IPM in pigeonpea
 18.2.9.4 Demonstration of pigeonpea and nagli in hilly area

Feedback

- 18.2.9.5 Generally, potash is recommended for horticultural crops but farmers use potassium fertilizer to get higher yield of other crops also. Hence, there is need to start research on response to potash

Potassium recommendations have been made where required. There is no need to start research on response to potash separately as it is included in fertilizer trials if required. Our soils are generally rich in potassium and unnecessary use of this fertilizer will increase the cost of cultivation.

- 18.2.9.6 Light trap is recommended for pest control in cotton but its use by farmers is difficult and it is less effective also

Use of light trap is difficult due to unavailability of electricity. Instead, use pheromon trap should be advised.

- 18.2.9.7 Due to hike in price of phosphatic fertilizers, farmers have curtailed the use of this fertilizer. Therefore, there is need to work on other sources

Farmers should be advised to apply phosphorus as per the requirement, recommendation and soil status. Use of organic sources and bio-fertilizers should be increased for getting benefit in long run.

- 18.2.9.8 Area of banana is decreasing due to incidence of sigatoka and other diseases. Hence, there is need to recommend suitable banana based cropping systems so that disease incidence can be minimized

Farmers should be advised to avoid monocropping.

18.2.10 DAO, Tapi

Report of Tapi district included the information of rainfall, area and production of important crops, results of crop cutting experiments, results and planning of farm trials and feedback.

Farm trials

- 18.2.10.1 Comparison of hybrid rice and NAUR-1 variety

(Action : DAO, Tapi)

Feedback

- 18.2.10.2 Need to test feasibility of pit planting of sugarcane

Experiments is in progress at SWMRU, Navsari. General indication is that cost of this method is high and production remains same. This method should be advocated where there is a problem of hard pan.

- 18.2.10.3 Effective control measures for mealy bug of cotton

Effective control measures have been already recommended.

- 18.2.10.4 Need to develop suitable agro-techniques for controlling reddening in cotton

Recommendation will be made shortly.

- 18.2.10.5 Need to test feasibility of seedling planting in sugarcane

It is successful. Research is not required.

- 18.2.10.6 Improvement in sugarcane harvester to suit different planting spacings

Spacing should be adjusted to suit mechanical harvesting.

18.2.10.7 Agronomic requirement of hybrid rice

Work on hybrid rice has been initiated. In general, agronomic requirements are not much different, but work on this aspect can be started after screening suitable variety.

18.2.10.8 Certified seed production of kadva wal

Seed production will be carried out as per the demand.

G.Wal-2 is a good variety and should be included in farm trial.

(Action : DAO, Tapi)

18.3. Presentation of KVK reports

18.3.1 KVK, Navsari

18.3.1.1 Feedback

- To develop cultivation practices technology of protected cultivation for flower and vegetables.
- Development of techniques for rejuvenation of old sapota orchards.
- Research can be done for maximum production of sapota fruit in month of Nov to Dec for better market price.
- Uniform size of sapota fruit should be get at every picking.
- Early maturity and small size of sapota fruits in January to February.
- Specify the use of organic manure and bio fertilizer on the bases of age of orchard.
- Micronutrient application in Sapota.
- Post emergence weedicides for pulse crops.
- Inland aqua culture varieties
- Cheap feed for animals to be developed.
- Irrigation requirement for regulating the mango flowering.

Suggestion : An Experiment be formulated.

(Action : Res. Sci., Horti., RHRS, Navsari and Res. Sci., Horti., AES, Paria)

18.3.1.2 Demonstrations

- To introduce new variety for salinity area (paddy)
- To popularized new high yielding variety (paddy, elephant foot, turmeric, finger millet)
- Use of biofertilizers to improve production and quality (sapota, mango)
- New variety and land configuration (Tur)
- To popularized kitchen garden model (vegetables)
- To improve nutritional value of paddy straw (urea treatment)
- Culture demonstration of fresh water fish/prawns in village ponds.

18.3.1.3 OFTs

- Management of seed rate in transplanted paddy
- Induction of Early flowering in mango through padobutrazol

18.3.2 KVK, Vyara

18.3.2.1 Feedback

- Fertilizer dose for Hybrid rice and ratoon cotton.
(**Suggestion** : Ratooning is not advisable in cotton)
- Unavailability of *summer* groundnut seed in Tapi district.
- Development of location specific pigeon pea variety for early *summer* and *Khariif* for Tapi district.
- Require to develop high yielding hybrid rice suitable for this region.
- Short duration, early, dual purpose pigeon pea variety.
- Requirement of area specific mineral mixture for Tapi district.
- Low cost high nutrient efficiency diet should be developed to prevent sickle cell anemia.

18.3.2.2 Demonstrations

- Oilseeds (Groundnut, Soybean, Castor)
- Pulses (Pigeonpea bean)
- Cereal crops (Paddy irrigated, GM + Paddy, Maize, Paddy rainfed)
- Vegetable crops (Cauliflower)
- Plant protection (IPM in cotton, Paddy and Pigeonpea)
- Home Science (Kitchen gardening, NAVEEN sickle)
- Animal Science (Bypass fat feeding to buffaloes)

18.3.2.3 OFTs

- Low yield of paddy (Ongoing)

18.3.3 KVK, Dediapada

18.3.3.1 Feedback

- Development of late *khariif* pigeon pea variety (Due to late sowing)
- Development of suitable mix cropping / intercropping module for rainfed area
- Research should be focus on milch breed in the area
- Research to be done on post harvest management (PHT) of custard apple
- Sudden wilting of brinjal plant at the time of flowering/ fruiting just like Para-wilt of cotton

18.3.3.2 Demonstrations

- Pulses (Pigeonpea)
- Cereals (Paddy, Maize)
- Oilseeds (Soybean)
- Plant protection (minimize use of pesticide in Cotton and Paddy; Bio-agent *Trichoderma* in Pigeonpea and *Pseudomonas* in Brinjal)
- Animal Science (Mineral mixture - Buffalo, Urea treatment to paddy straw, Teat dipping)

18.3.3.3 OFTs

- Effect of supplementing mineral mixture and concentrate on body growth performance in calves
- Assessment of stem application method of insecticide for management of sucking pest in cotton
- Assessment of feasibility of hand operated automatic seed drill in hilly area of Narmada district

18.3.4 KVK, Waghai**18.3.4.1 Feedback**

- Appropriate method of application of FYM/ Organic fertilizer in sloppy/ hilly land to check the erosion is required.
- Suitable weed control method for the Dang district. (High infestation of weed due to forest area.)
- Improved hand tools for various agricultural operations in hilly area.
- Need to develop proper post harvest chain from farm to market.
- Research should be done in the direction of increasing milk productivity of Dangi and local/desi cattle, particularly.
- Effect of climate change on crop and cropping pattern needed to study in hilly tract.
- Suitable varieties of pulses (tur, moongbean, black gram) required.

18.3.4.2 Demonstrations

- Oilseeds (Soybean GS-2/JS-335)
- Pulses (Pigeonpea Vaishali)
- Cereals (Paddy GNR-2, Ragi GN-4/GN-5, Vari GV-2)
- Component demonstration on bio-agent (NAUROJI trap in mango)
- Vegetable (INM in Brinjal and Chilly)
- Animal Science (Mineral mixture - HF Crossbred, Backyard poultry)
- Home science (Kitchen gardening)

18.3.4.3 OFTs

- Low milk production due to parasitic infestation & mineral imbalance in crossbred cattle

18.3.5 KVK, Surat**18.3.5.1 Demonstrations**

- Pigeonpea (Vaishali)
- Soybean (JS-335)
- Paddy (GR-5, GNR-3, NAUR-1, SERA technology)
- Cotton (Hy 6 BGII, Hy 8 BGII)
- Elephant foot yam (Gajendra)
- Turmeric
- Sorghum (GJ-42)
- Fodder sorghum (CSV 21F)
- IPM Paddy
- IDM Banana
- Large scale demonstration of variety and biofertilizer in Pigeonpea (Vaishali), Paddy (NAUR-1 and GR-5), Sorghum (GJ-42)

18.3.5.2 OFTs

- Assessment of aerobic rice in Olpad block of Surat District

18.3.6 KVK, Chaswad

Report of KVK Chaswad included issues/constraints of Bharuch district,

extension activities and results of frontline demonstrations and OFTs.

Feedback

18.3.6.1 Law land holding and poor irrigation facility in Valia and Zagadia

18.3.6.2 Salinity, poor drainage and waterlogging problems in Amod, Vagra and Jambusar

Waterlogging is due to canal network. Farmers should be advised to follow management practices.

18.3.6.3 Low production in pulse crops

18.3.6.4 Heavy weed infestation

18.3.6.5 Heavy incidence of congress grass seen in wheat crop at Zagadia

18.4 Farmers opinion

Progressive farmers also attended the meeting. Sharadbhai expressed need for work or solution of some points *viz.*, mosaic of papaya, mealy bug of papaya, water soluble fertilizers, improvement in Nizar guti variety (Maldandi-35 is also good), K mobilizing bacteria, use of gypsum, testing of PKV-2 variety of gram, effect of washout of honey dew from leaves of gram, feasibility of *Subabul* cultivation and marketing regulation. Bharatbhai Desai highlighted problem of red jassid in mango, malformation of mango flowers, dieback gumosis, rejuvenation of old sapota orchards. Sanjivbhai Naik requested to arrange farm machinery/mechanization fair and mango. He also mentioned some points like sesamum cultivation, intercropping of vine vegetables in castor, need of solar drier, effect of *Navdhanya*.

Professor & Head, Dept. of Agril. Engineering, NMCA was requested to do needful for arranging farm machinery/mechanization fair.

(**Action** : Professor & Head, Dept. of Agril. Engineering, NMCA, NAvsari)

The meeting ended with vote of thanks.