



CENTRE OF ADVANCED FACULTY TRAINING AGRICULTURAL METROLOGY MPKV, Rahuri

Introduction

This center was established in 1987 with financial support from ICAR. The different advance instruments in the field of Agril. Meteorology such as steady state porometer, spectro radiometer, photosynthesis system, infrared thermometer, neutron moisture meter, data logger & different radiation sensors, BREB apparatus, EC technique, leaf area meter was imported. Further, eight staff members were trained abroad. The world-renowned consultants were invited for establishing the center. Hence, the ICAR offered the CAFT to Department of Agril. Meteorology at Pune. Funded by I.C.A.R., New Delhi.

Objective of CAFT :

1. Mainly Human Resource Development.
2. Advance training to the Professors & Scientists from SAU & ICAR Institutes.

Faculty: Name & Designation (as on 30.9.2011) :

Sr. No.	Designation	Name of Staff	Expertise
1	Head, Department of Agril. Meteorology	Dr. D.W. Thawal	Agril. Meteorology & Agronomy
2	Professor of Aerobiometeorology	Dr. S.B. Kharbade	Aerobiometeorology, Agril. Entomology, IPM
3	Professor of Applied Agril. Climatology	Prof. A.A.Shaikh	Applied Agril. Climatology & Agronomy
4	Associate Professor of Hydrometeorology	Prof. A.K.Hazari	Agril. Meteorology & Hydrometeorology of Engineering
5	Associate Professor of Biophysics	Vacant	Vacant since Dec., 2009
6	Steno-typist	Shri. A.A. Shaikh	Steno-typist

2

Human : Resource Development :

Particulars of Short Courses/Training program for HRD conducted during XI plan period.

Sr No	Name of the Programm	Period	No. of Participants		
			Internal	External	Total
1	Fundamentals of Agril. Meteorology	6 th to 26 th Feb., 2008 (3 weeks)	4	13	17
2	Basic Principles of Crop Micrometeorology	5 th to 25 th March, 2008 (3 weeks)	4	11	15
3	Fundamentals of Agril. Meteorology	8 th to 28 th Jan., 2009 (3 weeks)	4	11	15
4	Basic Principles of Crop	18 th Feb., to 10 th March	6	13	19

	Micrometeorology	2009 (3 weeks)			
5	Fundamentals of Agril. Meteorology	6 th to 26 th March, 2010 (3 weeks)	4	7	11
6	Crop Micrometeorology	2 nd to 22 nd Feb., 2011 (3 weeks)			21

Infrastructure Development (Equipments etc.) : The following World class instruments are available with this institute.

Equipment List :

Sr. No.	Name of Equipment	Sr. No.	Name of Equipment
1	Micro- Logger with Sensors	2	Sap Flow Measurement System
3	Steady State Porometer	4	Sun scan or Digital Plant Canopy
5	Stefan Boltzman law apparatus	6	Searle's conductivity apparatus
7	Lee's Disc apparatus	8	Thermo anemometer with carrying case and battery charger
9	Automated Weather Station (AWS)	10	Portable Photosynthesis System
11	Steady State Parameter	12	Portable Area Meter
13	Area meter LAM 865 Table model	14	Data Logger
15	Spectroradiometer	16	Pyranometer CM 11
17	Albedometer CM 7	18	Pyrheliometer CM 1
19	Sunshine energy sensor 6.0081	20	Ventilated Psychrometer Unit

Sr. No.	Name of Equipment	Sr. No.	Name of Equipment
21	Neutron Soil Moisture Probe	22	Infrared Thermometer
23	Line Quantum sensors	24	Quantum Sensors
25	Pyranometer sensors	26	Aspirated Hygrometer
27	Spare Aspirator	28	Thermograph
29	Barograph – Open scale barograph	30	Breb apparatus
31	Ventilated TC Psychrometers	32	Krypton Hygrometers, KH 20 with carrying case, cable, power supply and cross arm
33	Met.One Wind Direction Sensor 024 A	24	Met One Wind Direction Sensor 024 A
35	Micrologger	26	Sonic Anemometers
37	RH & T Probe – Vaisala Sensor	28	Pressure Plate Apparatus
39	Portable Dew Point Generator DPG 144	40	Digital Pressure Meter
41	Sap Flow System	42	TDR Trase System
43	Bimetallic Thermograph	44	Hair Hygrograph
45	Delta-T Data Logger and sensors	46	Micromet. Weather station

Renovation of Lecture Room/Laboratories :

Particulars	No. of rooms	Area (m²)
Seminar Hall	01	71
Office Room	04	34
Staff Room	05	200
Instrument Cell	01	88
Crop Modeling Laboratory	01	51
Computer Laboratory	01	40

❖ **Works**

- New Laboratory Unit constructed on 2nd floor for equipments
Training/Display Hall : Area : 85 m²
Agro-advisory Cell : Area : 51 m²
Experimental field : One hectare

Library upgraded : Total books in library = 1412

4

Awards/Recognitions :

Special contribution of the Department of Agril.Meteorology of Mahatma Phule Krishi Vidyapeeth, Rahuri.

- I) Long Range Location-wise Monsoon Rainfall Forecasting Model is developed and registered for National Patent at Bombay office on 26th September, 2008 and the Registration No. is 2069.
- A) Necessity of Long Range Location wise Monsoon Rainfall Forecast Model-**
During 2005, 2006 and 2007 the Monsoon rainfall was in excess.
Therefore there were floods.
 - B) Permission of the University :** The meeting of Heads of Departments was organized under the Chairmanship of Director of Research on 25th June, 2008 and decision was taken to recommend the proposal to the Hon. Vice-Chancellor to accord permission to register for patent. The Hon. Vice-Chancellor accorded the permission to register the monsoon Model for patent.
 - C) Registration :** The papers were submitted for registration of Long Range Location wise Monsoon Rainfall Forecasting Model to Bombay
 - D)** Office and the Monsoon rainfall forecasting Model was registered on 26th September,2008 under registration No.2069 at National Level.
 - E) About Model :**
 - i) The long range location wise monsoon rainfall forecasting model is first of its kind in India.

- ii) The monsoon model predicts the scanty, deficient rainfall and drought similarly excess rainfall and flood. It can predict scanty Deficient, Normal, Above Normal or Excess rainfall of a location.
- iii) The monsoon model is useful for decision making in Agriculture for arrangements of farm work and farm planning – including the decision about bank loan and investment in agriculture sowing time inter tillage operations besides time for spraying pesticide and deciding harvesting time of farm produce etc.
- iv) The range of location specific monsoon rainfall forecast Model is within the periphery of 40 to 50 km of its radius.
- v) The preliminary forecast is given on 25th May and final forecast is given on 4th August. According to demand the forecast are also given in between for medium range forecast of rainfall.

5

F) Future line of Action and Policy :

- I) According to Intellectual Property right the concerned Scientist (Dr. R.N. Sabale, Ex. HOD, Agromet.) and Mahatma Phule Krishi Vidyapeeth, Rahuri may accept the offer of work from different State Governments, Institution or Private firms to develop models for their area and may given forecast based on the fees decided well in advance for the work. The financial benefits will be shared as per the ICAR norms to the concerned scientist and university.
- II) The Ministry of Agriculture, Department of Agriculture and Cooperation Drought Management Division Government of India, New Delhi has approved new Adhoc-Project entitled as “Characterization of rainfall and deciding cropping pattern based on environmental factors for the scarcity zone of Maharashtra State”. The scheme is of worth Rs.11.92 lac for the year 2008 to 2012. The U.R. of the scheme has been issued. The U.R. No. is MTG-3(583/988) of 2009, dt.3rd March, 2009.
- III) Former Chief Minister of Maharashtra State Hon. Shri. Vilasraoji Deshmukh also expressed his view and good opinion about the Monsoon Model system developed by Mahatma Phule Krishi Vidyapeeth, Rahuri, to Hon. Vice-Chancellor in his inaugural speech of Joint Agresco held at Nagpur on 1st June, 2008.
- IV) One Day Roving Seminar on Weather, Climate and Farmers conducted during 2010.

Publication*

• **International Journal :**

1. **Thawal D.W., S.B.Kharbade, A.K.Hazari and B.V.Desai.** Studies on canopy temperature and light use efficiency under different fertilizer levels of N,P and K in rose under polyhuse conditions during monsoon season. Paper presented at International Conference on Issues for Climate Change, Land use Diversification and Biotechnological tools for livelihood security (ICLDBT-2011) held at Sardar Vallabhbhai Patel University of agriculture and technology Meerut (U.) India, October 8-10, 2011 pp. 128-129.
2. **Sabale R.N., S.B.Kharbade, D.W.Thawal, and S.T.Waghamare.** Studies on canopy air temperature and light use efficiency under different fertilizer levels of N,P and K in rose under polyhuse conditions during monsoon season. Paper presented at International Conference on Issues for Climate Change, Land use Diversification and Biotechnological tools for livelihood security (ICLDBT-2011) held

at Sardar Vallabhbhai Patel University of agriculture and technology Meerut (U.) India, October 8-10, 2011. pp. 129-130.

6

3. **Jagtap K.B., D.W.Thawal, S.B.Kharbade, and S.R.Gawade.** Studies on canopy temperature and light use efficiency under different fertilizer levels of N,P and K in rose under polyhuse conditions during monsoon season. Paper presented at International Conference on Issues for Climate Change, Land use Diversification and Biotechnological tools for livelihood security (ICLDBT-2011) held at Sardar Vallabhbhai Patel University of agriculture and technology Meerut (U.) India, October 8-10, 2011. pp. 130-131.
- **Indian Journal** :
1. **Dalvi, T.D., R.N.Sabale, A.K.Hazari and S.S.Salunke.** 2010. Evaluation of sowing time for *kharif* Pearl Millet and validation by DSSAT- 3.5. J. Maharashtra Agric. Uni., 35(3) : 385-387.
 2. **Gagare, A.H., V.Y.Sankpal, A.A.Shaikh and C.D.Chavan,** 2011. Effects of Integrated Nutrient Management on Growth, Yield and Economics of Summer Groundnut. J. Agric. Res. Technol; 36(1) : 032-035.
 3. **Thawal D.W., A.K Hazari, T.D. Dalvi and V.R. Pawar,** 2010. Climate change and Agriculture, Vanarai 7 : 11-12.

Research Papers Published in 2007-2008

A) Scientific publications – (Internationally abstracted)

1. **Vaidya,V.B. and Sabale, R.N.** 2007. A Correlation Study of Shoot Fly Pest incidence for Sorghum. J. Maha. Agric. Univ. 32(1): 105-107.
2. **Sabale, R.N.,** Wattamwar, M.J. and **Jadhav, S.V.** 2007. Open distance learning system in maximization of Agril. Production.
3. Patil S.N., **Sabale, R.N. and Varshneya, M.C.** 2007. Sowing strategies for *kharif* soybean and validation by DSSAT-3.5. J.Maha. agric. Univ.
4. Mokashi, S. A., **Sabale, R. N. and Varshneya, M. C.** 2007. Sowing strategies for Pearl millet in *kharif* season. J. Maha. Agric. Univ.
5. Jagtap.K.B.and . **Sabale, R.N.** 2008. Effect of Nitrogen through manures and Fertilizers alone and their combinations on the yield contributory characters and yield of Soybean,

B) Technical Publications :

1. **Sabale, R.N.,** 2007. Prospects and challenges of Agricultural Meteorology in Agricultural Education paper presented in the National Seminar on “New Dimensions of Agricultural education” held on 1st January 2007 at College of Agriculture, Pune -5.
2. **Sabale, R.N., Gunjal, K.R., Chinchorkar, S.S., Salunke, S.S. and Hazari,A.K.** 2007. Accuracy of NCMRWF weather forecast for use of Farmers Community in Pune Region. National Seminar on Extension Strategies to promote Agri. business held in Pune from 1 to 3 March, 2007.

7

3. **Sabale,R.N., Dalvi, T.D., Salunke, S.S., Chinchorkar, S.S. and Hazari, A.K..**

- 2007 Economic Impact of Agro Advisory services on the weather forecasting received from NCMRWF a paper presented to the National seminar on Extension agri strategies to prime business held in Pune on 1-3 March, 2007.
4. **Sabale, R.N.**, 2007. Long Range location specific a Monsoon rainfall forecast a paper presented in State level Seminar on Monsoon at College of Agriculture Pune-5.
 5. **Sabale, R.N.**, 2007. Organic farming in relation to climate change paper presented in the National Symposium on "Organic Farming" held on 11 & 12 September 2007, at College of Agriculture, Pune-5.
 6. **Sabale, R.N.**, 2007. "A production technology of phosphomanures" a paper presented in the National Symposium on "Organic Farming" held on 11 & 12 September 2007, at College of Agriculture, Pune-5.
 7. **Sabale, R.N.** 2007. Disaster Management paper presented in Yashada, Pune, Sept., 2007.
 8. **Sabale, R.N.**, 2007. "Integrated Farming system models for Pune District" a paper presented in the awareness camp for the farmers of Pune district on 1st October, 2007.
 9. **Sabale, R.N.** 2007. Rainfall Forecasting with reference to disaster Management paper presented in Drought disaster Management in October, 2007 at Yashda, Pune.
 10. **Sabale, R.N.**, 2007. Long Range location specific regional monsoon rainfall forecast for Maharashtra State a paper presented in the annual workshop of IMD & IITM held on 3rd December, 2007 at Pashan, Pune.
 11. D.D.Pawar, **D.W.Thawal** and C.B.Gaikwad Water Management in Sugarcane. Paper presented in "Platium Jubilee celebration" (75years) CSRS, Padegaon "A group meeting of AICRP on Sugarcane at AC, Pune-5.
 12. **D.W.Thawal**. Climate and Crop Production , Season and Cropping Pattern. A paper presented for short term training on "Fundamentals of Agril. Meteorology" at CASAM,A.C.Pune-5. 8th -28th Jan.2007at CASAM, AC, Pune sponsored by ICAR, New Delhi.
 13. **D.W. Thawal**. Modification of Microclimate due to Microirrigation System and its Effect on Crops. A paper presented for participants of short term training on "Basic principles of crop Micrometeorology" at CASAM,A.C.Pune-5. 6th to 26th March 2007 at CASAM, AC,Pune-5, sponsored by ICAR, New Delhi.

C) Extension Publications :

1. **Sabale, R.N.** 2007. Crop Map for Maharashtra, Agro-1 7th April.
2. **Sabale, R.N.** 2007. Weather based crop production and crop planning for Pune District, Sakal, 13th July.
3. **Chinchorkar, S.S., Sabale, R.N.** and **Dalvi, T.D.** 2007. "Use of rainguage in April., purpose" September.

4. **Sabale, R.N.** 2007. Climate change going organic spells hop for farmers, the times of India, 12 September.
5. **Chinchorkar, S.S., Sabale, R.N.** and **Dalvi, T.D.** 2007. "Weather based cropping System" Shetimitra (Farmers bulletin) October.
6. **Chinchorkar, S.S., Sabale, R.N.** and **Dalvi, T.D.** 2007. "Global Warming" Shetimitra (Farmers bulletin). December.
7. **Sabale, R.N.** 2007. Importance of meterological Science in Development of Agriculture Krishi Darshan, 28 December.

8. **Sabale, R. N., S. S. Chinchorkar, T. D. Dalvi.** 2008. "Observatory" Shetimitra Farmers Bulletin January.
9. **Sabale R.N., S.S.Chinchorkar, V.K.Khire.** 2008. "Integrated Pest Management" Shetkari.
10. **Sabale R.N., S.S.Chinchorkar.** 2008. "Water Management" Shetkari.
11. **Sabale R.N., S.S.Chinchorkar.** 2008. "Importance of Weather for Agriculture". Shetkari.
12. **R.S.Raut, D.W. Thawal, J.B.Shinde and P.D. Patil.** Phalbanganoa Unaliyat Pani Vayvasthapan, Lokmangal, Sheti-Pratik, Masik, March . pp.4-6.

Research Papers Published in 2008-2009.

A) Scientific publications – (Internationally abstracted) :

1. **N.L.Bote, R.N.Sabale, S.S.Salunke** and A.S.Ingale. 2008. Canopy Temperature and Irrigation Scheduling of Brinjal. J. Maharashtra Agri. Univ. 33 (3):353-355.
2. Jagtap.J.B.and **R.N. Sabale.** 2008. Effect of Nitrogen through manures and fertilizers alone and their combinations on the yield contributory characters and yield of Soybean,

B) Technical Publications :

1. **R.N.Sabale .** 2009. "Microclimate of Net, Glass, Polyhouse and Methods of Micrometeorological Modifications in Greenhouse", paper presented at CRIDA, Hyderabad on 4/11/2009.
2. **D.W. Thawal.** and P.S. Bodake, C.B. Gaikwad. Weed control and Weed Management in Fruit Crops. Paper presented in the state level Interface meeting of weed scientist, "weed management and use of weedicides in increasing crop productivity. 25th Feb. 2009 at MCCIA Pune PP-1 to 9

C) Extension Publications:

1. **Sabale, R.N., S.S.Chinchorkar,T.D.Dalvi.** 2008. "Observatory" Shetimitra Farmers bulletin January.
2. **Sabale R.N., S.S.Chinchorkar, V.K.Khire.** 2008. "Integrated Pest Management" Shetkari.
3. **Sabale R.N., S.S.Chinchorkar.** 2008. "Water Management" Shetkari.

9

4. **Sabale R.N., S.S.Chinchorkar.** 2008. "Importance of Weather for Agriculture". Shetkari.
5. **D.W.Thawal,** Chandrakant Gaikwad. Tan Niyantrasathi Jamin Mashagatiche Mahatva, Shri Sugi, Unalali Ank 2009, February. pp. 10 - 11.

Scientific Research Papers Published in Journals 2010-2011

1. **Dalvi, T.D., R.N.Sabale, A.K.Hazari** and **S.S.Salunke.** 2010. "Evaluation of sowing time for *khariif* Pearl Millet and validation by DSSAT- 3.5". J. Maharashtra Agric. Uni., 35(3) : 385-387.
2. Gagare, A.H., V.Y.Sankpal, **A.A.Shaikh** and **C.D.Chavan,** 2011. "Effects of Integrated Nutrient Management on Growth, Yield and Economics of Summer Groundnut" J. Agric. Res. Technol; 36(1) : 032-035.

3. **Thawal D.W., A.K Hazari, T.D. Dalvi and V.R. Pawar**, 2010. "Climate change and Agriculture", Vanarai 7 : 11-12.

B) Extension Publications:

1. **D.W.Thawal, A.K.Hazari, T.D. Dalvi and V.R. Pawar**. 2010. Havaman Badal Ani Sheti, Vanrai Masik, 19 (7) July. Pp. 11-12.

• **Books : (Dr. D.W.Thawal)**

No.	Author	Name of Books	Publisher	Year
	D.W. Thawal, A. A. Shaikh, A. J. Jadhav & A. S. Jadhav	Krishi Shatrachi Multatve v Peek sanvardhan (Eyata 10 vi, Karyanubhav Shishak HastapushtikKa)	Maharashtra Rajya Madhyamik Shishak Mandal, Pune - 5	August 2007, Eakun Prushate 116

- **Manuals : Compendium - 1 every year**

Any other Special Contributions

Research Recommendations

❖ **Drip irrigation to sweet orange : (2007)**

Under drip irrigation in medium deep soil for obtaining higher fruit yield from sweet orange , it is recommended to withheld irrigation upto 205 mm CPE (45 days) from 15th November onwards for *Ambia* Bahar.

❖ **Irrigation Management in Sugarcane : (2007)**

In Deccan canal tract of Western Maharashtra in medium deep black soil for obtaining higher cane and sugar yield, water use efficiency, monetary returns from *suru* sugarcane under water stress situation (If 12-13 irrigations are available),

10

irrigation be scheduled at 100 mm CPE from January to April, at an interval of 20-22 days, 125 mm CPE from May to August , an interval of 24-26 days and 75 mm CPE from September to December, at an interval of 26-28 days with 8 cm depth of irrigation by surface method alongwith application of sugarcane trash mulch @ 6 t/ha (30 cm chopped sugarcane trash) at 45 days after planting is recommended.

❖ **Maize based cropping sequence : (2008)**

On the basis of monetary returns, sweet corn (125% GRD) - Pea (Greenpod) - Fenugreek (Green vegetable) cropping sequence is recommended for irrigated condition of Plane Zone of Maharashtra.

❖ **Sprinkler irrigation to Sweet Potato : (2008)**

For Western Maharashtra in medium deep soil, for obtaining higher tuber yield and higher monetary returns, sprinkler method of irrigation at 25 mm CPE (Oct., 6 days, Nov., 7 days, Dec., 9 days, Jan., 8 days, Feb., 6 days and March 4 days) with 2.5 cm

depth of irrigation, is recommended during *rabi* season for sweet potato with 15% saving of water over surface irrigation.

Special Trainings (Dr. D.W.Thawal)

Sr. No.	Title	Institution	Duration
1.	"Gender Sensitization model" on the functionaries of Agriculture and Allied sections.	Director General, NIAEM, Rajendra nagar Hyderabad-500030 held at Vanamati, Nagpur.	12th March 2007 (one day)
2	Orientation workshop for the Co-ordinators of field experience Training (FET)	NAARM, Hyderabad 500407	6-7 March 2008

Extra Curriculales activities :

- ❖ Nominated as overall incharge of the **Inspection squad** for smooth conduct of final theory examination of Agril. School. (20 to 25-3-2007).
- ❖ **Member for monitoring of academic programmes** of PGI, MPKV, Rahuri (2006 to 09).
- ❖ Member for selecting the land to be taken in possession by Mahatma Phule Krishi Vidyapeeth, Rahuri for establishment of proposed **Custard apple and Fig** research station at Jadhavwadi (2008).
- ❖ Nominated as a **Expert member of selection committee** for interview candidates for the academic post/ **screening of promotion proposals/grant of senior scale /selection grade of Asstt. Prof./ Asso. Prof.**, at Dr. B.S.K.K.V, Dapoli (2009).
- ❖ **New and restructuring PG syllabus** for M.Sc. (Agri.) and Ph.D. programme in Agronomy is formulated (2009).
- ❖ Worked in various committee for **convocation (2007 and 08) ICAR, sports (2007- 08) and Ashwamedh-2008.**

Financial Statement :
Expenditure under CAFT during XI plan :

Head	2007-08	2008-09	2009-10	2010-11	2011-12
Operating cost of Training	308490	281548	113698	248833	-
Recurring Contingency	211589	225133	170709	100970	11676
Non-Recurring Contingency T.A.	1027	23843	.10542	6486	1206
Library	49190	49402	29940	29993	-
	570296	579926	324889	386282	12882

Faculty : Name and Designation :

Prof.A.A.Shaikh, I/C Professor of
Applied Agril. Climatology , CAFT in
Agril., Meteorology, College of Agriculture,
Pune-411005

Publication :

S.N.	Particular	2007-2008	2008-2009	2009-2010	2010-2011
1	International Journal				
2	Indian Journal	4	2	9	11
3	Extension Publications	8	2	1	8
4	Technical Papers	2	---	---	---
5	Books	1	---	---	---
6	Manuals	2	---	2	---

Scientific Publications : 2007-2008

- 1.Shaikh,A.A.,S.G. Kumbhar and S.M .Jawale .2007.**Integrated nutrient management under Black gram-wheat cropping sequence. BioInfolet.4(2) : 119-121.
- 2.Bhondave,T.S.,A.A.Shaikh,S.G.Kumbhar and S.M.Jawale.2007.** Effect of organic and inorganic fertilizers on yield , yield attributes and quality of baby corn. BioInfolet.4(2) : 166-167.
- 3.Ranaware V.S., A.A.Shaikh and S.M.Jawale.2007.** Yield contributing characters and yield in black gram-wheat cropping sequence as influenced by integrated nutrient management. J. Maharashtra agric. Univ., 32(3) : 321-323.
- 4.Shaikh,A.A., A.G.Jadhav, T.S.Bhondave and S.M. Jawale . 2007.** Effect of integrated nutrient management under black gram-wheat cropping system on growth contributing characters, quality of seed, uptake of nutrient and economics. BioInfolet. 4 (3) : 239-244.

Publications : 2008-2009

1. Yadav,V.K.and **A.A. Shaikh**.2008. Effect of integrated weed management on the productivity of soybean [*Glycine max* (L.) Merrill] . Haryana J.Agron. 24 (1&2) : 95-96.

13

2. Sawant,P.K., **A.A.Shaikh** and S.R.Bachkar.2008.Influence of varieties and planting layouts on yield of sorghum (*Sorghum bicolor* (L.) Moench.) . Bioinfolet.5(4): 367-368.

Publications : 2009-2010

1. Yadav,V.K.,V.Y.Sankpal, **A.A.Shaikh** and S.R.Bachkar.2009. Effect of integrated weed management on yield and economics of soybean (*Glycine max* L.Merrill.). J.Maharashtra agric.Univ.,34(1):25-27.
2. Shinde, P.S., V.Y.Sankpal, S.M.Jawale, **A.A.Shaikh**, N.D.Dalavi and M.B. Jadhav. 2009. Effect of integrated nutrient management on yield attributes and quality of soybean . J. Maharashtra agric.Univ.,34 (1) :107-108.
3. Jat,V.B.,B.P.Tuse,S.M.Jawale,**A.A.Shaikh** and N.D.Dalavi.2009. Effect of fertilizer levels and dates of sowing on growth and yield of sweet corn (*Zea mays* Saccharata S.). J. Maharashtra agric.Univ.,34(1):108-109.
- 4.Sawant,P.K., **A.A.Shaikh** and S.R.Bachkar.2009.Influence of planting layouts on yield and quality of sorghum fodder. J. Maharashtra agric.Univ.,34(1): 123-124.
- 5.Dhane, J.B., S.M. Jawale, **A.A.Shaikh**, N.D.Dalavi and P.N.Dalavi .2009. Effect of integrated weed management on yield and economics of soybean (*Glycine max* L. Merrill.) . J. Maharashtra agric.Univ.,34(2) :141-143.
6. Dalavi,P.N.,T.S.Bhondave,S.M.Jawale, **A.A.Shaikh** and N.D.Dalavi.2009. Effect of sources of organic manures in integrated nutrient management on yield and quality of sweet corn. J. Maharashtra agric. Univ.,34(2):222-223.
- 7.Deshmukh , S.S., **A.A.Shaikh**, M.M.Desai and R.S.Kamble. 2009.Nutrient content in summer sesamum (*Sesamum indicum* L.) as influenced by integrated fertilizer management. Bioinfolet.6(2): 172.
- 8.Dhasade, K.K., **A.A.Shaikh**, M.M.Desai and R.S.Kamble.2009.Effect of organic manures and fertilizers on yield and nutrient uptake of ginger (*Zingiber officinale* Rosc.). Bioinfolet.6(2): 173-174.
9. Yadav,V.K.and **A.A. Shaikh**.2009. Effect of integrated weed management on the productivity of soybean [*Glycine max* (L.) Merrill].

14

10. Yadav,V.K.and **A.A. Shaikh**.2009. Effect of integrated weed management on the productivity of soybean [*Glycine max* (L.) Merrill].Haryana J.Agron. 25 (1&2) : 84-85.

Publications : 2010-2011

1. Deshmukh, S.S., **A.A. Shaikh** and M.M. Desai. 2010. Influence of integrated nutrient management on growth and yield contributing characters of summer sesamum. J. Maharashtra agric. Univ., 35(1): 003-006.
2. Dhasade, K.K., **A. A. Shaikh** and A.D. Tambe. 2010. Integrated nutrient management in ginger. J. Maharashtra agric. Univ., 35(1): 154-156.
3. **Shaikh, A.A.**, M. M. Desai, S.B. Shinde and A.D. Tambe. 2010. Yield and nutrient uptake of ginger (*Zingiber officinale* Rosc.) as affected by organic manures and fertilizers. Internat. J. agric. Sci. 6(1) : 28-30.
4. **Shaikh, A.A.**, M.M. Desai, S.B. Shinde and A.D. Tambe. 2010. Yield of summer sesamum (*Sesamum indicum* L.) as influenced by integrated nutrient management. Internat. J. agric. Sci. 6(1) : 144-146.
5. **Shaikh, A.A.**, M.M. Desai and A.D. Tambe. 2010. Influence of genotypes and planting layouts on quality of sorghum fodder. Internat. J. agric. Sci. 6(1) : 289-290.
6. Karle, R.L., S. M. Jawale, N.D. Dalavi and **A.A. Shaikh**. 2010. Effect of integrated weed management on yield of brinjal (*Solanum melongena* L.). J. Maharashtra agric. Univ., 35(2): 321-322.
7. Dhane, J.B., S.M. Jawale, **A.A. Shaikh**, N.D. Dalavi and P.N. Dalavi. 2010. Effect of integrated weed management treatments on yield and quality of soybean (*Glycine max* L. Merrill.). J. Maharashtra agric. Univ., 35(2): 322-325.
8. **Shaikh, A.A.**, M.M. Desai and R.S. Kamble. 2010. Influence of planting layouts and quality of sorghum fodder. Internat. J. agric. Sci. 6(2) : 459-460.
9. **Shaikh, A.A.**, M.M. Desai, S.B. Shinde and R.S. Kamble. 2010. Yield and quality of soybean (*Glycine max* (L) Merrill) as influenced by integrated weed management. Internat. J. agric. Sci. 6(2) : 534-536.
10. Deshmukh, S.S., **A.A. Shaikh**, M.M. Desai and R.S. Kamble. 2010. Effect of integrated nutrient management on yield of summer sesamum (*Sesamum indicum* L.). J. Maharashtra agric. Univ., 35(3): 453-455.

15

11. Salke, S.R., **A.A. Shaikh** and N.D. Dalavi. 2010. Influence of Phosphatic Fertilizers, Gypsum and Sulphur on Growth Contributing Characters of Groundnut (*Arachis hypogaea* L.). Adv. Res. J. Crop Improv. 1(2): 106-110.

Technical Publications : 2007-2008

1. Gaikwad, C.B., M.B. Dhonde and **A.A. Shaikh**. 2006-2007. Refinement in agricultural education for modern agriculture. Paper presented at seminar on "New dimensions in agricultural education" held at College of Agriculture, Pune Dec. 31, 2006 and Jan. 1, 2007. Abstract 1. pp. 1-2.
2. Jadhav, A.S., C.B. Gaikwad, **A.A. Shaikh** and A.D. Tumbare. 2007. Organic farming in the past, its relevance in present and future agriculture. Paper presented at National

symposium on "Recent trends in organic farming" held at College of Agriculture, Pune Sept.11-12, 2007. Abstract 1.pp.1-3.

Extension Publications : 2007-2008

- 1.Rabi unhali Bhuimug Lagwadisathi plasticcha vapar "Dhanyalaxmi" January, 2007 Pan No.25-27 Hile, Rajendara;Yogesh Patil ani **A.A.Shaikh**.
- 2.Unhali Hangamat Bhuimugachi sudhari lagwad. "Krishi Vyaspeth" January, 2007 3(12)Pan No.5-7 Hile, Rajendara;Yogesh Patil ani **A.A.Shaikh**.
- 3.Janewari mahinyat karawyachi kame. "Krishi Vyaspeth" January,2007 3 (12) Pan No.13. Hile, Rajendara;Yogesh Patil ani **A.A.Shaikh**.
- 4.Kharif hangamat tan niyantran ase kara. "Krishi Vyaspeth" July,2007 4 (6) Pan No.58-60. **A.A.Shaikh** ani C.B.Gaikwad.
5. Jiwanu khate Utpadan wadhisathi atyalp kharchache tantradnyan. "Dhanyalaxmi" August,2007 5(4)Pan No.65-68 Hile, Rajendara ;Yogesh Patil ani **A.A.Shaikh**.
6. Pikatil olavyache vyavasthapan."Dhanyalaxmi" Sept.,2007 5 (5)Pan No.24-26. **Shaikh,A.A.**,Hile, R.B. ani Y.J.Patil
7. Mashagatidware kid niyantran kase karave? "Dhanyalaxmi" Sept.,2007 5 (5) Pan No.27-28. **Shaikh,A.A.**,Hile, R.B. ani Y.J.Patil
8. Sheti utpadan vadhit purvamashagatiche mahatv. "Krishi Vyaspeth" Sept.,2007 4(8)Pan No.51-52. Hile, R.B.; **A.A.Shaikh** ani Y.J. Patil.

16

9. Sudharit tantradnyanane gavhache utpadan wadhva. "Krishi Vyaspeth" Nov.,2007 4(10)Pan No.20-22. **Shaikh,A.A.**,Hile, R.B. ani Y.J.Patil.

Extension Publications : 2008-2009

1. Mashagatidware kid niyantran kase karave? "Dhanyalaxmi" Sept.,2007 5 (5) Pan No.27-28. **Shaikh,A.A.**, Hile, R.B. ani Y.J.Patil.
2. Rabi hangamat antarmashagatiche mahatv."Godwa Usacha" November, 2008.12 (11) Pana No.19-20. **Shaikh,A.A.**

Extension Publications : 2009-2010

1. Chala, Aalaa kharif hangam, "Baliraja" May,2009.40(5) Pan No.18-20 **Shaikh,A.A.**, M.M.Desai ani C.B.Gaikwad.

Extension Publications : 2010-2011

- 1.Unhali hangamat olavyache vyavasthapan. "Baliraja" April,2010.41 (4) Pan No.79-80. **Shaikh,A.A.**, S.V.Bagade ani C.D.Chavan.
2. Welich Kara Aale lagwad. "Dainik Sakal Agro one" , 1May,2010. Pan No.8 **Shaikh,A.A.**

3. Sudharit mashagat tantradnyanane alyache bharghos pik ghya. "Baliraja" May, 2010.41(5) Pan No.47-50. **Shaikh,A.A.**, S.V.Bagade ani C.D.Chavan.
4. Aagami(Yetya) kharif hangamawar ek drishtikshep. "Baliraja" May, 2010. 41(5) Pan No.84-87. **Shaikh,A.A.**, C.D.Chavan ani S.V.Bagade.
5. Aale lagawadi vishayi mahiti. "Dainik Sakal Agro one" , 15May,2010. Pan No.11 **Shaikh,A.A.**
6. Sudharit tantradnyanane kharif bhuimugache bharghos utpadan ghya. "Godwa sheticha" June,2010.415(34) Pan No.48-50. **Shaikh,A.A.**, S.V.Bagade ani R.H.Shinde.
7. Yogya padhdhatine aalyache vyavasthapan kara. "Dainik Sakal Agro one" , 22 June,2010. Pan No.8. **Shaikh,A.A.**
8. Kharif bhuimugasathi sudharit tantradnyan. "Baliraja" July,2010.41(7) Pan No.90-93. **Shaikh,A.A.**, S.V.Bagade ani R.H.Shinde.

Books :2007-2008

Gaikwad,C.B. and A.A.Shaikh.Guidelines for Scientific Publication

Manuals: 2007-2008

1. Agromet.112. Physics and Agricultural Meteorology.B.Sc.(Agri.) degree Course.
2. Agron.527. Agricultural Meteorology. M.Sc.(Agri.) degree course.

Manuals: 2009-2010

1. Agron.504. Principles and Practices of Water Management. M.Sc.(Agri.) degree course.
2. Agron.505. Agrometeorology and Crop Weather Forecasting .M.Sc.(Agri.) degree course.

Mahatma Phule Krishi Vidyapeeth
Department of Agricultural Meteorology,
Centre of Advanced Faculty Training (CAFT) in Agril. Meteorology,
College of Agriculture, Pune-5.

No. ACP/CAFT/ Inf.XIplan/ 875 /2011, Date : 21.10.2011

To,
Dr. Kusumakar Sharma,
Assistant Director General (HRD),
Education Division,
Indian Council of Agril., Research,
Krishi Anusandhan Bhavan-II,
PUSA, New Delhi - 110 012.

Sub : Information for Impact of CAFT in XI Plan...

Ref. : Email on October 4, 2011 at 12.30 p.m.

Sir,

In this context, please find enclosed herewith the information for Impact of CAFT in XI plan with respect to CAFT in Agril. Meteorology, Department of Agril., Meteorology, College of Agriculture, Pune-5 for further needful action.

Thanking you,

Yours faithfully,

Encl : As above

Head,
Department of Agril. Meteorology
College of Agriculture, Pune-5.