

ANNUAL REPORT

2013 - 2014



MAHATMA PHULE KRISHI VIDYAPEETH

Rahuri - 413 722, Dist. Ahmednagar (Maharashtra)

www.mpkv.ac.in





- Editor** : **Dr. B. R. Ulmek**
Director of Extension Education
Mahatma Phule Krishi Vidyapeeth, Rahuri
- Editorial Board** : **Dr. Prakash Turbatmath**
Dr. Gorakash Sasane
Dr. Sandip Patil
Dr. Sachin Sadaphal
Dr. Kiran Thorat
Shri. Sangram Kale
- Published By** : **Shri. Sunil Wankhede**
Registrar,
Mahatma Phule Krishi Vidyapeeth,
Rahuri, Dist. Ahmednagar,
Maharashtra (India)

MPKV / Extn. Pub./ No. 1019 / 2014



Dr. T. A. More

Vice-Chancellor,
Mahatma Phule Krishi Vidyapeeth,
Rahuri - 413 722, Dist - Ahmednagar.



FOREWORD

The Aim and Efforts of Mahatma Phule Krishi Vidyapeeth, Rahuri are towards the only goal of supporting the farmers and the rural community through education, research and transfer of technology generated at the University. Annual Report 2013—2014 is a detailed account of the efforts of the University in achieving this goal. Starting of new academic programmes, implementing new projects and schemes, organizing various training programmes, farmers' rallies, publication of various bulletins, diaries and handouts are for the benefit of farmers in that they could immensely profit from the technologies generated by the University. In this endeavor the guidance and support of His Excellency Hon'ble Governor of Maharashtra and the Chancellor of the University, Hon'ble Minister for Agriculture and Pro-Chancellor of the University, the Director General of Indian Council of Agricultural Research, New Delhi and the Executive Council Members of the University are quite remarkable through their policies, orders, initiatives and personal visits.

During the year 2746 students have successfully completed the Undergraduate, Post-Graduate and Ph. D. Degree Programmes. There were 26 JRF and 2 SRF at the Post-Graduate Institute, Mahatma Phule Krishi Vidyapeeth, Rahuri. A majority of the students have secured scholarship from various agencies. Apart from their wonderful performance in the Extra-Curricular and Co-Curricular Activities, 74 students of the University have joined the Maharashtra Government Services through the MPSC and a good number of students have joined the Private Sector. A few of them have opted for self-employment.

Out of the research work through various departments, research projects and schemes several new varieties of crops, farm implements, and technology recommendations were released for the benefit of the farmers. Seeds and Grafts of various field crops and plantation crops were produced and distributed to the farmers. Students of the University too participated in the research activities of the University.

Hundreds of farmers visit the Central Campus and other Colleges and Research Stations. The faculty and the scientists of the University guide them and convince them of the technologies generated at the University for their socio-economic benefit through various programmes and publications. The response of the farmers is quite encouraging and satisfactory.

A detailed account of the progress of the University is presented in the following pages of the report.

(T. A. More)



INDEX

Sl. No.	Contents	Page No.
1.	Salient Achievements	1
1.1	Education	1
1.2	Research	5
1.3	Extension Education	5
2.	Education	6
3.	Research	17
4.	Extension Education	35
5.	Major Events	42
6.	Awards / Distinctions / Recognitions	51
7.	Human Resource	52
7.1	Executive Officers	52
7.2	Executive Council Members	52
7.3	Academic Council Members	54
7.4	Academic Officers	56
7.5	Academic Staff / Head of Departments	56
7.6	Other Officers	57
7.7	University Manpower	58
8.	Campus Development Activities	63
9.	University Budget	64



1. Salient Achievement

Mahatma Phule Krishi Vidyapeeth, Rahuri established in 20th Oct. 1969 has been a center of human resource development to meet the growing demands of the state as well as the nation for trained man power specialized in agriculture. This is one of the four agricultural universities in the state with its jurisdiction spread over Western Maharashtra covering 10 districts, viz., Kolhapur, Sangli, Satara, Solapur, Pune, Ahmednagar, Nasik, Dhule, Jalgaon and Nandurabar.

The unique feature of this university's jurisdiction is that, it has extreme agro-climatic conditions of Farming. Four out of the nine agro-climatic zones of Maharashtra fall in this region. These are Western Ghat Zone, sub-Mountain Zone, Western Maharashtra Plain zone and Scarcity Zone. The total geographical area distributed among the ten districts of this university is 116.12 lakh ha (37.5 percent of total geographical area of the state). Out of this, 72.45 lakh ha area is under cultivation. The total irrigated area is 13.17 lakh ha (18.17 percent). However, a large area of this university comes under drought prone zone (approx. 80.00 percent of the state). The main objective of MPKV is to co-ordinate Agril. Education, Research and Extension Education Activities.

1.1 Education

Mahatma Phule Krishi Vidyapeeth is imparting education from diploma to doctoral level in the field of Agriculture and allied faculties through its constituent and affiliated schools and colleges. Some of the salient achievements are :

1. The university is imparting graduate level education in agriculture and allied subjects through five constituent colleges viz. Colleges of Agriculture, Pune, Dhule, Kolhapur, Karad and Nandurbar, Dr. Annasaheb Shinde College of Agricultural Engineering, Rahuri and College of Horticulture, Pune. The intake capacity of students at the constituent undergraduate colleges was 724.
2. As per the new education policies, 49 affiliated colleges are functioning for imparting the agricultural & allied education in university jurisdiction. It includes 25 Agricultural, 04 Horticulture, 04 Food Science, 06 Agril. Business Management, 06 Agril. Biotechnology, 04 Agricultural Engineering and 01 Animal Husbandry colleges.
3. The intake capacity of the students at the affiliated colleges for B.Sc. (Agri.) course was 2160, B.Sc. (Hort) 200, B.Tech (Agril. Engg.) 280, B.Sc. (Agri. Bio.Tech.) 320, BBM (Agri.) 320 and B.Tech. (Food Tech.) 240, A total of 3550 students were admitted in the first year.
4. The intake capacity of the students for Doctoral Degree Programme was 81 and Master Degree Programme was 188 at Post Graduate Institute, Rahuri while at College of Agriculture, Pune it was 98, College of Agriculture, Kolhapur it was 46 and College of Agriculture, Dhule it was 24 students for Master degree Programme.
5. The intake capacity of the students for M.Tech. (Agri.Engg.) was 16 at Dr. Annasaheb Shinde College of Agril. Engg, MPKV, Rahuri.
6. The students who successfully completed the graduation degree programme in the constituent and affiliated colleges were 2347.
7. The students successfully completed the Post graduation degree programme in the constituent colleges were 357 M.Sc. and 42 Ph.D.
8. 26 students were in receipt of Junior Research Fellowship and 2 Senior Research fellowships at Post Graduate Institute, MPKV, Rahuri.
9. A lecture on "Enhancing Mind Power through positive thinking" by Shri. E.V. Giresh from Brahma Kumaris Ishvari Vishv Vidyalyaya, Navi Mumbai was organized at Nanasaheb Pawar Auditorium, Post Graduate Institute, MPKV, Rahuri.
10. A lecture on "Security of Women: Legal Advise" by Sau. Nilmani Gandhi, Reputed Social Reformer was organized by Post Graduate Institute, MPKV, Rahuri.
11. A Personality Development Programme of Midas Academy, Pune was organized at Post Graduate Institute, MPKV, Rahuri. A total of 177 students participated in it.



12. A 30 days training programme was organized by Food Science and Technology department, PGI, MPKV, Rahuri on “Fruit and Vegetable Processing”.
13. The PGI has well established placement Cell During current year 07 Students were selected
- Agri. Officer Dept/ZP/Mandal AO.
14. At the 29th Convocation, 8178 students were conferred different degrees. Following students were awarded Gold Medals for their academic achievements.

Sl. No	Name of the Award	Recipient
M.Sc. (Agri)		
1.	Principal V.G. Gokhale, Gold Medal to a student standing first in the University at the M.Sc.(Agri.)Degree examination in the discipline of Agronomy.	Miss. Dudhade Poonam Deepak
2.	Hexamer Foundation, Gold Medal to a student standing first in the University at the M.Sc. (Agri.) Degree examination in the discipline of Plant Pathology.	Miss. Rubina Pokharel
3.	Late Rajaram G. Patil Nasik, Gold Medal to a student of M.Sc. (Agri.) standing first in the subject of Seed Science & Techonology.	Miss. Gaikwad Ashvini Pandit
4.	Jindal Jubilee, Gold Medal to a student securing highest marks with 75% minimum in the final year M.Sc. (Agril) in Soil Science and Agril. Chemistry	Miss. Loitongbam Joymati Chanu
5.	Krishibhushan Hiralal Onkar Patil, Gold Medal For Agricultural Botany (P.G.) Plant Physiology	Miss. Adsul Dipali Laxman
6.	BSS Suresh Agrawal Gold Medal to be awarded to the student standing first at M.Sc. in (Horti) in Vegetable Science	Miss. Deshmukh Bhavana Diwakar
7.	Sahakar Maharshi Bhausaheb Santoji Thorat Gold Medal to the student who stood first in the subject of “Dairy Science” in M.Sc. (Agri.)	Miss. Patil Megha Suresh
8.	Loknete Late Marutrao Ghule Patil Gold Medal to the student who stood first in the subject of “Agril. Economics ” in M.Sc.(Agri.)	Shri. Shaikh Mohd Mouzam
9.	Late Sunitbhai Bonde Gold Medal to the student who stood first in the subject of “Agril. Extension” in M.Sc.(Agri.)	Miss. Vandana Arjun Gandroli
10	Late Varun Kamble and Late Deepak Wagh Gold Medal to the students who stood first in subject of Agril. Biotechnology	Miss. Chaudhari Priya Gangadhar
11	Dr.Vasantrao Khuspe Gold Medal to the student who stood first in the subject of “Agronomy” in Ph.D (Agri.)	Shri. Giri Milind Dattatraya



15. A special camp for the year 2013-14 was held in village Majale, Tal- Hatkangale, Dist-Kolhapur, wherein 121 volunteers (54 girls & 67 boys) participated actively. Sant Gadga Baba Jayanti cleanliness campaign was celebrated with wherein, volunteers collected the plastic around the road side and discussed the problems of use of plastic with villagers and advised them to go for alternative Materials like jute etc. Volunteers worked & arranged Health Camp for the villagers of Majale village by Dr.Rekha Sarda Naturo-Theoropist,Kolhapur.
16. 26 students of College of Agriculture, Kolhapur were successful in JRF examination.
17. The Soybean variety KS-103 developed by Dr. S. R. Shinde, I/C Professor of Agril. Botany, College of Agriculture, Kolhapur was appreciated in the Annual Soybean Workshop at Jorhat, Assam by the Director of Soybean, Indore for south zone.
18. Dr. Budhajirao Mulik senior agricultural expert and advisor to government of Maharashtra visited the college of Agriculture, Kolhapur and guided the students for career development in agriculture and allied fields.
19. The educational study tour of South India (Second year B.Sc.), North India (third year B.Sc.) and Maharashtra (First year B.Sc.) were arranged respectively by College of Agriculture, Dhule.
20. A special campaign was launched to combat the drought through NSS programs under different villages in Dhule tahsil of the district which was organized as the five different village viz., Nawalnagr, Dahyane, Kalkhede, Aajang and Nimdala. The slogan through rallies and street play were organized to inspire the villagers regarding efficient use of water in the fields.
21. Anti- Drug Day was organized by 48th Maharashtra bn. NCC Dhule under the chairmanship Col.T.S.Sinha, Commanding Officer. All the staff members of this college and NCC officers participated. In this function along with all NCC students of Dhule district.
22. Two students from College of Agriculture, Dhule participated in Indian Students Parliament Council, 2012 held at MIT, Pune.
23. One day workshop on 'Career Opportunities in R & D food processing and food engineering was organized by Dr. A.S. College of Agril. Engineering, MPKV, Rahuri.
24. Swachha Bharat Abhiyan was organized by the Constituent Colleges i.e. Post Graduate Institute and Dr. A.S.College of Agril. Engg., MPKV, Rahuri, College of Agriculture, Pune/Dhule/Kolhapur/Karad/Nandurbar and Affiliated Colleges. On this occasion a rally was organized. Students and staff were given oath of Swachhata. Debate, Elocution, Essay Writing, Poster Making competitions were also organized on this occasion.
25. To create awareness among the students and parents about agriculture education after HSC, the Agril. Education Day was organized by the Constituent Colleges i.e. Post Graduate Institute and Dr. A.S. College of Agril. Engg., MPKV, Rahuri, College of Agriculture, Pune/Dhule/Kolhapur/Karad/Nandurbar and Affiliated Colleges. Live practicals of yoga by yoga experts lectures on" Importance of Yoga in personality Development of Students Education was organised at the College of Agriculture, Karad.
26. First year students educational study tour was organized by College of Agriculture, Nandurbar.
27. Dr. T.A. More, Vice-Chancellor, Dr. B.R. Ulmek, Dean (F/A) & Director of Instruction and Dr. K.D. Kokate, Director Extension Education, MPKV, Rahuri, visited and reviewed the on going activities of the College of Agriculture, Nandurbar.
28. Inter Collegiate Debating & Elocution Competition 2013-14

The Inter Collegiate Debating & Elocution Competition for the year 2013-14 was organized at Central Campus Rahuri on 18th November, 2013. The result of the competition is given below



A) Shiksha Mandal Wardha

Sr. No.	Name	College	Runner/ Winner
1.	Bansode Vijaya Dilip	AC, Baramati	Winner
2.	Salunke Vijay Balasaheb	AC, Sonai	Runner

A) P.C. Alexander Elocution Competiton (English)

Sl. No.	Name	College	Runner/ Winner
1.	More Vikrant Sahadev	PGI, MPKV, Rahuri	Winner
2.	Chavan Nikhil	Dr. ASCAE, MPKV RAhuri	Runner

c) P.C. Alexander Elocution Competition (Marathi)

Sl. No.	Name	College	Runner/ Winner
1.	Bansode Vinaya Dilip	AC, Baramati	Winner
2.	Gavande Prachi	AC, Nashik	Runner

d) Anti Dowry Movement, Mumbai

Sl. No.	Name	College	Runner/ Winner
1.	Ransing Kiran	Dr. ASCAE, MPKV Rahuri	Winner
2.	Sonavane Shubangi	AC. Sonai	Runner

29. MPKV, Rahuri teams participated in the Inter Unviersity Tournament

No	Event	Date	University
01	Football	14 to 18 Nov. 13	M.L. Sukadiya University, Udaipur Rajasthan
02	Malkhamb	08 to 12 Nov. 13	Kurukshetra University Kurukshetra, Hariyana
03	Table Tennis	20 to 22 Dec. 13	Marathwada Vishvavidyalaya, A.bad
04	Badminton	25 to 26 Nov. 13	Rajasthan Technical Institute, Kota, Rajasthan

30. The 10th Maharashtra State Inter University cultural youth festival "Indradhanushya 2013"

The Maharashtra State Inter University Cultural Youth festival "Indradhanushya 2013" was organized from 7th to 11th December, 2013 at Dr. Babasaheb

Ambedkar Technical Unviersity Lonere. A team of Mahatma Phule Krishi Vidyapeeth, Rahuri participated in this Cultural Youth Festival.

31. The 17th Maharashtra State Inter University Krida Mahotsav (Ashwamedh 2013-14)

The 17th Maharashtra State Inter University Krida Mahotsav was organized at Maharashtra Health Sciences Unviersity, Nashik from 27th November to 1st December 2013 the following teams of MPKV, Rahuri have been participated in Krida Mahostav 2013-14 :

1) Kho Kho (M) 2) Kho Kho (W) 3) Volley Ball (M) 4) Volley Ball (W) 5) Kabaddi (M) 6) Kabaddi (M) 7) Basket Ball (M) 8) Basket Ball (W) 9) Athletics (M) 10) Athletic(W) all the above teams performed very well in the Krida Mahotsav.

32. Maharashtra State Social & Cultural Competition for NSS Volunteers, 'Utkarsha 2013'

The Maharashtra State Social & Cultural Competition *Utkarsha 2013* was organized at Bharti Vidyapeeth, Dhankavadi, Pune form 14th to 16th December 2013. A team of nine male & 9 female volunteers and two team managers participated in Utkarsha 2013.

33. Agril. Technical School

Kho-Kho (Boys)

First and second	Name of District
Winner	Solapur
Runner	Kolhapur

Kho-Kho (Girls)

First and second	Name of District
Winner	Ahmednagar
Runner	Satara

Volley Boll (Boys)

First and second	Name of District
Winner	Solapur
Runner	Pune

Volley Boll (Girls)

First and second	Name of District
Winner	Pune
Runner	Solapur



34. Yash Karandak T-20 Inter University Cricket Tournament for Staff

The Yash Karandak T-20 Inter University Cricket Tournament for staff was organized at Yashvantrao Chavan Maharashtra Open University, Nashik from 4th to 14th December, 2013. The team of MPKV, Rahuri staff members participated in this competition. The team performed very well and reached up to quarter finals round.

1.2 Research

1. The university has released five new varieties i.e. Wheat (Phule Samadhan), Niger (Phule Vaiterna), Mango (Phule Abhiruchi), Custard Apple (Phule Purandar) and Garlic (Phule Nilima).

2. The university has released two Agril. Farm Implements i.e. Manually operated Phule sorghum uprooter and manually operated phule medicinal nut sheller.

3. The university has passed 54 recommendations on various aspects for the benefit of the farming community.

4. The university has produced 3795.77 quintal of Nucleus seed, 3478.61 quintal of certified Seed, 2721.95 quintal of foundation seed.

5. A total of 9996.33 quintal of seed of various field crops were produced during 2013-14 for the farming community.

6. A total of 1168865 planting material of fruit crops 32445 ornamentals and 111.21 quintal seed of vegetable crops. 136.5 ton of bulbs of vegetable crops were distributed to the farmers.

7. A total of 641.65 quintal and 871.75 liters of Bio fertilizer/ Biocontrol agents were produced by various centers of the university.

1.3 Extension Education

1. About 189 off campus training programmes for farmers, farm youth, farm women, staff of development departments and inter action training programme between farmers and scientists were organized by the Regional Extension centres, District Extension centres and Agri. Research Stations.

2. A total of 58 monthly district workshops were arranged and 1366 number of beneficiaries were benefitted from it.

3. A total of 370 method demonstrations, 403 Result demonstrations and 1471 Front line demonstrations were conducted and 6421 peoples benefitted from these demonstrations.

4. Total 5421 different Extension Education methods and Aids viz. group discussions, meeting, field visit/shivar pheries, Field days, Farm & Home visit, Farmers rallies, Agril. Exhibition, study tour were organized for diffusion of Agricultural technologies to the end users.

5. Diagnostic and surveillance team has visited at 167 places to guide the farming community.

6. Different publications viz. Krishidarshani (18000), Shri Sugi (9970), Folders (10000), booklets, MPKV News letter were released by the university and made available to the end users.

7. Nearly 21818 VIP's students, farmers, Trainees and officers visited central campus, MPKV, Rahuri and 15544 visited other centers to acquire recent knowledge of agriculture and allied enterprises.

8. The university scientist attended 15276 Help line calls and guided the farmers on major issues.

9. Through mobile crop Dispensary 1164 Soil Samples, 476 pests samples and 575 diseases samples were tested and necessary guidance was given by university scientist on the spot.



2. Education

There are two faculties to impart Agriculture Education in this university namely

1. Faculty of Agriculture
2. Faculty of Agricultural Engineering

Faculty of Agriculture

Agriculture Faculty is a vast and diversified field offering numerous career options. The Faculty of Agriculture imparts education in various fields viz. Horticulture, agricultural biotechnology, food technology, post harvest technology, soil science, plant protection, agro forestry, agricultural business management, micro irrigation systems, social sciences etc. The faculty of agriculture is responsible for undergraduate, post-graduate and doctoral degree academic programmes. The main streams of faculty of agriculture are as follows :

B.Sc. (Agri.)

Agriculture Education is imparted to develop skilled human resource for developing sustainable agriculture farming system leading to technological and economic empowerment of practitioner of agriculture. B.Sc (Agri) is a four year degree course spread over 8 semesters with 160 credit work load. A total of 123 course credit of B.Sc.(Agri.) degree are completed upto first six semesters. In seventh semester, Rural Agricultural Work Experience (RAWE) programme is implemented, which exposes students to rural life and farming situations and the constraints in adoption of modern technology by the farmers. In the eighth semester in Experiential Learning programme, the students undergo intership in any one of the following industries /companies / institutes.i.e- seed /fertilizer / pesticides industries, biotechnological /bio pesticides industries, commercial nurseries, sericulture units, food processing units, agriculture finance institutions /banks /credit societies etc. Maharashtra Agricultural University Examination Board, Pune conducts common semester end theory examinations of the undergraduate programme. Under this university, 5 constituent colleges and 49 affiliated agricultural colleges offer B.Sc. (Agri) degree programme.

B.Sc. (Hort)

Horticultural Education until 1970 was taught

as a part of agriculture curriculum in India. Realizing the importance of horticulture in promoting livelihood security, economic empowerment and nutritional security, horticulture emerged as a separate discipline. Under the jurisdiction of the university, first Horticulture College was started at College of Agriculture, Pune in the year 1984. B.Sc (Hort) is a four year degree course spread over 8 semesters. The total credit requirement for the B.Sc. (Hort.) degree Course is 165. In VII & VIII semesters, 14 weeks HANDS ON TRAINING and 6 weeks Industrial Training are provided on nursery management & protected cultivation respectively. This program is implemented by one constituent college and two affiliated horticultural colleges of the university.

B. Tech. (Food Science and Technology)

B.Tech. (Food Science and Technology) is a 4 year degree course spread over 8 semesters. Out of the total 180 credits, 125 course credits are completed upto sixth semester. In seventh semester 25 (15+10) credits are recommended for Hands on Training , on- campus (15 credits) in various departments of college and off - campus training in other colleges of Food Technology (10 credits) . At least, in two areas Hands on Training is offered to the students by the college depending upon local needs and industrial demands. In the eighth semester, Inplant training (off campus) for six months in food industries / Institutes for 30 credits is offered to the students and evaluation is done by host industries.

The basic objective is to provide the skilled man power for commercial food processing, R and D department, research and education institutes and Quality Control departments and to generate self employment opportunities to the youth in setting up of food processing units. The programme is implemented at four affiliated colleges of the university.

B. Sc. (B.B.M.)

B. Sc. (B.B.M.) degree programme is a 4 year degree course spread over 8 semesters. The course is specially designed by considering all the best courses of various institutes and incorporating the requirements of agricultural sector in general and that of management aspects in particular, it is expected that pass outs will reach to the expectation. The course helps students to get acquainted with the knowledge



regarding agriculture, agri. economics, agri. marketing and agri. Business management. Out of the 160 credits, 120 course credits are completed upto sixth semester. In seventh semester 20 credits are recommended for Experiential Learning. In all five module are devolped and a batch of five students, to a maximum 20 students are allotted for each module. The modules devolped are namely, agro based industries, management of Agro allied industries, post harvest management, project planning, formulation, evaluation of high valued crops and marketing management of agri. input industries. In VIII Semester students are offered 20 credits In Plant Traning. The students in this programme live in villages along with farmers adopting latest technologies, afterwards work in processing / marketing units and have one week study tour. The programme is implemented at four affiliated colleges of the university.

B. Sc. (Agri. Bio-Tech)

B.Sc.(Agri. Biotech) is a 4 year degree course spread over 8 semesters. Since biotechnology is an integrated science of various disciplines, this UG programme comprises five departments viz. Biochemistry and Molecular Biology, Plant Biotechnology, Post Harvest and Food Biotechnology, Animal Biotechnology and Crop Science.

Out of 8 the semesters, upto 6th semester various courses are offered to the students. In the 7th semester practical oriented cafeteria courses are offered. In the 8th semester hands on training programme comprising individual project is offered in order to acquire the enough knowledge in Biotechnology for their future job / project. There are six affiliated Agril. Biotech colleges under MPKV, Rahuri. for creating human resourse in Agril. Biotechnology.

1.1 Constituent Colleges

a) College of Agriculture, Pune

The historical College of Agriculture, Pune, is one of the first five agricultural colleges established in India. It celebrated its centenary year in 2007. It has an annual intake capacity of 190 students with land holding of 90 ha. It offers PG degree programme in various subjects along with the recently started MBM (Agri.) degree. The college has a Hi-tech Floriculture



Project, All India Coordinated Bio-control Project, Centre for Advanced Studies in Agro-meteorology, Biological Nitrogen Fixation Scheme, Agri-clinic and Agri-business Training Centre, All India Coordinated Mushroom Improvement Project, Fish & Prawns Farming Unit, Medicinal & Aromatic Plants Project and a well equipped nursery.

b) College of Agriculture, Kolhapur



Kolhapur, the southern most district town of Maharashtra State is one of the agriculturally advanced districts of the country with an excellent network of agro based industries and co-operative organizations. The College of Agriculture is located on the Pune Bangalore National Highway. The college was established in the year 1963 and was initially affiliated to the Shivaji University, Kolhapur. Subsequently it became the constituent college of the University in 1969. This college is celebrating its Golden Jubilee Year in the year 2013. It has annual intake capacity of 190 students with land holding of 85.55 ha. It offers PG degree programme in various subjects. The college has projects such as vermicompost, bio-fertilizers, bio-pesticides, Phule soft drinks, Soil and Irrigation Water Analysis Lab, One time controlled land application of Spent Wash, Fruit Crop Nursery for supply of seedlings and crop seeds, Soil and Water Engineering Field Laboratory.



c) College of Agriculture, Dhule



Dhule is the northern district of Western Maharashtra region. The College of Agriculture was established in the year 1960 and has an annual intake capacity of 128 students. The College has a beautiful campus with spacious buildings for each department. It has a total land holding of 206.43 ha. The college also serves as a regional research centre for the northern part of the Maharashtra, with a focus on research on dry farming, cotton and groundnut. The college has projects, viz- Vermi Compost, Bio-Fertilizers, Bio-Pesticides, Soil and Irrigation Water Analysis Lab, Organic Farming demonstration unit, Seed Production, Horticultural Nursery, Cattle, Sheep and Goat units, Watershed Field demonstration units, Irrigation Systems Demonstration plot etc.

d) College of Horticulture, Pune



The college was established in the campus of College of Agriculture, Pune in 1984. The annual intake capacity is 32 students. The college has its own building with well developed classrooms, laboratories, LAN, computer & internet facilities.

E) College of Agriculture, Karad

College of Agriculture, Karad is established in

the Birth Centenary year of Hon. Ex-chief minister of Maharashtra Shri. Yashwantrao B. Chavan. The dream of Hon. Shri. Yashwantrao B. Chavan was to establish a college which will give education to the rural masses for development of Agriculture, Social and Economic conditions of the rural people of the western region of Maharashtra. The dream came to reality through the Hon. Ex-Chief Minister of Maharashtra Shri. Prathvirajji Chavan on 16/07/2013 and actual working was started on 16/08/2013 with inclusion of 60 students. Subsequently in the year 2014-15 60 (sixty) students have taken admission to this college as second batch of this college.

F) College of Agriculture, Nandurbar

The Nandurbar district was established on 1.7.1998 from the division of Dhule district. It includes 6 tahsils in the district. Nandurbar, the northern most district town of Maharashtra State is located in the tribal areas. In Nandurbar district 28.30 per cent area is under irrigation. The College of Agriculture, Nandurbar started from the year 2013-14 with the intake capacity of 60 and 80 per cent reservation for tribal students.

Affiliated Colleges

Mahatma Phule Krishi Vidyapeeth, Rahuri realised the need and demand for more trained human resource in agriculture and accordingly provided affiliation to 49 colleges in the faculty of agriculture. These colleges offer various undergraduate degree programs in the faculty of agriculture. There are 25 Agriculture Colleges, 04 Colleges of Horticulture, 04 Colleges Food Science, 06 Colleges Agril. Business Management and 06 Colleges of Agril. Biotechnology, 03 Agril. Engineering and 01 Animal Husbandry.

Post Graduate Programme

The faculty offers post graduate degree programme leading to M.Sc.(Agri) degree and doctoral programme leading to Ph.D degree in 20 disciplines. The common entrance test is conducted by Maharashtra Agricultural Universities Examination Board (MAUEB) for Post Graduate Courses of all the faculties.

M.Sc. (Agri)

The M.Sc (Agri) degree course is of two years spread over 4 semesters. The credit load for the course is 55. Out of this, 35 credits are allocated for course



work in which a student has to learn different courses appropriate to his specialization. The course work is split in to Major subject (20 credit), Minor subject (09 credit), Supporting subject (05 credit), Seminar (01 credit), thus making 35 credits. In addition, six non credit compulsory courses are allotted. For dissertation, 20 credits are allocated for research thesis. Each student has an advisory committee, which assists the students in selection of courses and the research topic. The student has to undertake a field research experiment and submit the dissertation as partial requirement for the award of the degree. The intake capacity of students for M.Sc (Agri.) Degree is 188 at Post Graduate Institute, MPKV, Rahuri, 98 at college of Agriculture, Pune, 46 at college of Agriculture, Kolhapur and 24 at College of Agriculture, Dhule.

Ph. D. Agriculture

The Ph.D. degree course is of three years spread over six semesters. The credit requirement for the course is 75; out of which 30 credits are for course work and 45 credits for research work. The course work is split in to Major subject (15 credit), Minor subject (08 credit), Supporting subject (05 credit), Seminar (02 credit), does making the 30 credits. In addition, six non credit compulsory courses are allotted. Research is the main component of Ph.D. degree programme wherein student undertakes sufficient research by way of conducting field experiments or collection of data or both to fulfill his research objectives. The Ph.D. Dissertation is independently evaluated by two experts from any of the SAUs in India. Each student has an advisory committee which assists the student in the selection of courses and the research topic. The intake capacity of students for Ph.D Degree programme is 70 at Post Graduate Institute, MPKV, Rahuri and 02 at College of Agriculture, Pune. In addition, inservice candidates are allotted admission to Ph.D.

Post Graduate Institute

The Post Graduate Institute was established in 1972 to meet the higher educational needs of agriculture in the State. The institute offers M.Sc. (Agri) degree in 18 disciplines namely- Agronomy, Genetics & Plant Breeding, Seed Science & Technology, Plant Physiology, Animal Science, Dairy Science, Plant Pathology, Agril. Microbiology, Agricultural Economics, Agricultural Entomology, Extension



Education, Fruit Science, Vegetable Science, Bio-chemistry, Food Science and Technology, Soil Science and Agril. Chemistry, Agricultural Biotechnology and Irrigation Water Management. The Ph. D. programme is offered in twenty disciplines. The Post Graduate Institute has an instructional farm spread over 56.21 ha. and is exclusively used for research activities of students. The students also have access to research on horticultural farm, medicinal and aromatic plants farm and irrigation water management farm. Each department has well equipped laboratories. In addition to these, the ultra modern facilities of following centres are available to students research: Biotechnology Research Centre, All India Network Project on Pesticide Residue, Micronutrient Research Scheme, Post Harvest Technology Laboratory, Bio-fertilizer Laboratory, Frozen Semen Laboratory, Biological Control Laboratory, Bakery Unit.

Faculty of Agricultural Engineering

The faculty of Agricultural Engineering meets the educational needs in various fields viz, micro irrigation technologies, polyhouse, drainage engineering, groundwater, wells and pumps, soil and water conservation, watershed management, grain, fruit and vegetable storage and processing, unconventional energy sources, tractors, farm machinery and implements, computer applications, remote sensing and GIS. The faculty has one constituent college and three affiliated colleges offering education in agricultural engineering. All these colleges offer undergraduate degree program leading to B.Tech.(Agri .Engg.) degree whereas the constituent college at Rahuri offers the postgraduate program in agricultural engineering leading to M.Tech.(Agri.Engg.) degree.



Dr. Annasaheb Shinde College of Agricultural Engineering, Rahuri



The college was established in 1969 after realizing the need for agricultural engineers for soil conservation, irrigation management, farm mechanization and post harvest processing. In 1996, the college was named after the former Union Minister of State for Agriculture and the architect of green revolution in India, Late Dr. Annasaheb Shinde. The college offers the UG programme in Agril. Engg. with intake capacity of 64 and PG programme with intake capacity of 16 in four different disciplines was initiated in 1982. Dr. A. S. College of Agril. Engg. has recently started the Ph.D. in Agril. Engineering by course work and research in the disciplines viz., Agril Process Engineering, Irrigation & Drainage Engineering and Soil Water Conservation Engineering.

In addition to the academic programmes, the faculty has the following ongoing projects. All India Coordinated Research Project on Utilization of Groundwater through Wells and Pumps; Precision Farming Development Centre, AICRP on Farm Implement and Machinery, Remote Sensing Laboratory, and the Tractor Training Laboratory.

Lower Agricultural Education

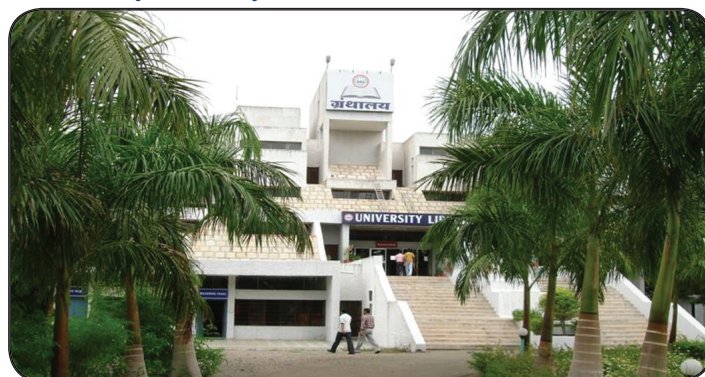
Under the Lower Agricultural Education, Diploma programmes are offered in Marathi medium through 9 constituent and 85 affiliated Agri. Tech Schools in the jurisdiction of the university. The concept of lower agricultural education revolves around improving the competency of participating students and providing trained man power at the grass root level. The students who pass the 10th standard (S.S.C.) examination are admitted on district merit list for Agri. Tech. Schools. Besides this 1 constituent and 3 Mali Training Centres

conduct one year certificate course.

Agricultural Knowledge Management Unit (AKMU)

The MPKV, Rahuri has V-SAT connectivity at Central Campus, constituent colleges and research stations. AKMU has a good network of OFC and Wi-Fi connectivity with 200 nodes. The video conferencing facility was created at three places at central campus and at 8 centers (College of Agriculture- Kolhapur, Pune and Dhule, ZARS-Igatpuri and Solapur, ARS, Kasbe Digraj, Dist. Sangli, CSRS, Padegaon, Dist. Satara and Oilseed Research Station, Jalgaon). The project is wholly owned and controlled by MPKV, Rahuri with a server at AKMU. This is mega project of MPKV under special funds received from ICAR, New Delhi.

University Library



The University Library, MPKV, Rahuri started functioning at Central Campus in the year 1971. Since its inception the library is developing steadily under the Chairmanship of Library Advisory Committee and playing pivotal role in providing scientific and technological information to the students, teachers and scientists of both faculties i.e. Faculty of Agriculture and Faculty of Agricultural Engineering, as well as progressive farmers for the last forty years. In this age of information technology tremendous changes have been taken place in library services.

At present University Library is rendering IT based services such as Internet, Retrieval of CD ROM Databases, e-mail, e-journals, online consortia (CeRA), etc. along with conventional ones.

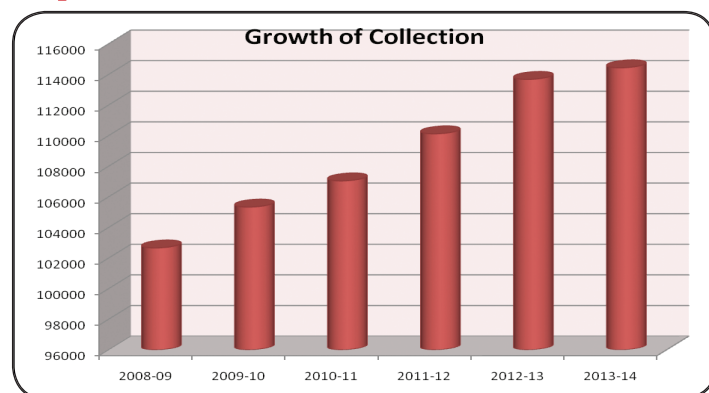
Library Budget

During the year under report, the University Library, Central Campus, Rahuri received the grants



of Rs. 38.42 lakh for salary and Rs. 7.07 lakh for Contingent expenditure and in addition to that 20.00 lakh from the ICAR grants New Delhi. The library also received Rs.5.83 lakh from ICAR, New Delhi for e-Granth, NAIP Project. This library has received a total grant of Rs. 71.32 lakh during the year under report.

Acquisition of Books and Journals



During the year under report the library received 1597 books, 223 back volumes of journals and 325 theses and thus making a total collection of 1,14,429 as on 31.3.2014. The library subscribed 150 online Books for the year 2014. The library is also receiving 18 journals against exchanges of JMAU and 40 journals on gratis.

Library Services

Open access

- Lending of Books for home reading
- Inter Library Loan facility
- Photocopying services
- Reading Hall facility

It Based Services

- Internet services
- CD ROM Databases
- CeRA (Consortium of e-Resources in Agriculture)
- E-journals, On-line E-journals
- Statistical Database
- ETAD (E-Theses Abstract Database)
- Viewing Video Cassettes, DVDs through TV/VCR
- KrishiPrabha
- Course conducted
- e-granth project.

Remembrance Day of Dr. S.R.Ranganathan

University library observed remembrance day of Dr.S.R.Ranganathan, father of library science on 27th Sept. under the Chairmanship Dr. S. G. Borkar, Associate Dean (PGI), MPKV, Rahuri Dr.Ulhas Jadhav, University Librarian, Karnataka Veterinary University, Bidar was invited as Chief Guest of the program.

Workshop

The University Library organized One Day Workshop on Strengthening of Library Services and Facilities under e-Granth Project. 45 librarians of Agriculture Colleges under MPKV, Rahuri have participated the workshop.



OPAC (Online Public Access Catalog)

The University Library has provided OPAC Kiosls (Online Public Access Catalogue) available to the students and Staff.



Educational Institutes

Educational Institutes			
Sl. No.	Name of Institute	Name of the Course / Degree	Intake capacity
A) Constituent Colleges			
1.	Post Graduate Institute, Rahuri	Ph.D.	72
		M.Sc. (Agri.)	168
		M.Sc. (Hort.)	12
		M.Sc. (Bio-tech.)	8
2.	College of Agriculture, Pune	M.Sc. (Agri.)	54
		M.Sc. (Hort.)	6
		M.B.M. (Agri.)	30
		B.Sc. (Agri.)	190
3.	College of Agriculture, Kolhapur	M.Sc. (Agri.)	42
		M.Sc. (Hort.)	4
		B.Sc. (Agri.)	190
4.	College of Agriculture, Dhule	M.Sc. (Agri.)	24
		M.Sc. (Hort.)	4
		B.Sc. (Agri.)	128
5.	College of Agriculture, Karad	B.Sc. (Agri.)	60
6.	College of Agriculture, Nandurbar	B.Sc. (Agri.)	60
7.	College of Horticulture, Pune	B.Sc. (Hort.)	32
8.	Dr.Annasaheb Shinde College of Agril.Engg. Rahuri	Ph.D.	9
		M.Tech.(Agril.Engg)	16
		B.Tech. (Agril.Engg)	64
B) Affiliated Colleges			
1.	College of Agriculture, Akluj, Tal. Malshiras	B.Sc. (Agri.)	120
2.	College of Agriculture, Baramati	B.Sc. (Agri.)	120
3.	College of Agriculture, Sonsal Hingangaon,Tal. Kadegaon	B.Sc. (Agri.)	120
4.	College of Agriculture, Nasik	B.Sc. (Agri.)	120
5.	College of Agriculture, Rethare	B.Sc. (Agri.)	120
6.	College of Agriculture, Sonai	B.Sc. (Agri.)	120
7.	K.K.Wagh College of Agriculture, Nasik	B.Sc. (Agri.)	120
8.	College of Agriculture, Rajmachi	B.Sc. (Agri.)	120
9.	Dr.Ulhas Patil College of Agriculture, Jalgaon	B.Sc. (Agri.)	120
10.	College of Agriculture, Ambi, Talegaon Dabhade	B.Sc. (Agri.)	120
11.	College of Agriculture, Shahada, Dist. Nandurbar	B.Sc. (Agri.)	120
12.	College of Agriculture, Wadala	B.Sc. (Agri.)	60
13.	College of Agriculture, Talsande	B.Sc. (Agri.)	120
14.	College of Agriculture, Phaltan	B.Sc. (Agri.)	60



15.	College of Agriculture, Amalner	B.Sc. (Agri.)	60
16.	College of Agriculture, Maldad, Tal. Sangamner	B.Sc. (Agri.)	60
17.	Sadguru College of Agriculture, Mirajgaon	B.Sc. (Agri.)	60
18.	College of Agriculture, Dondaicha, Tal. Sindkhed, Dist. Dhule 425 408	B.Sc. (Agri.)	60
19.	College of Agriculture, Babhulgaon, Tal. Yeola, Dist. Nashik	B.Sc. (Agri.)	60
20.	College of Agriculture, Pravaranagar, Loni	B.Sc. (Agri.)	60
21.	College of Agriculture, Ghargaon	B.Sc. (Agri.)	60
22.	Sharad College of Agriculture, Jainapur	B.Sc. (Agri.)	60
23.	College of Agriculture, Paniv	B.Sc. (Agri.)	60
24.	College of Agriculture, Vilad Ghat, Ahmednagar	B.Sc. (Agri.)	60
25.	College of Horticulture, Phaltan	B.Sc. (Hort.)	80
26.	College of Horticulture, Sonsal-Hingangaon Tal. Kadegaon	B.Sc. (Hort.)	40
27.	K.K. Wagh College of Horticulture, Saraswatinagar, Nashik	B.Sc. (Hort.)	40
28.	College of Horticulture, Malegaon, Dist. Nashik	B.Sc. (Hort.)	40
29.	College of Agri. Engineering, Jalgaon	B.Tech (Agril. Engg.)	80
30.	College of Agri. Engineering, Talsande	B.Tech (Agril. Engg.)	80
31.	K. K. Wagh College of Agril. Engineering, Nasik	B.Tech (Agril. Engg.)	80
32.	College of Agril. Engineering, Yashwantnagar, Tal. Karad	B.Tech (Agril. Engg.)	40
33.	MEER's MIT College of Food Technology, Loni Kalbhor	B.Tech. (Food Tech.)	80
34.	Mokashi College of Food Technology, Rajmachi	B.Tech. (Food Tech.)	80
35.	K.K. Wagh College of Food Technology, Nashik	B.Tech. (Food Tech.)	40
36.	College of Food Technology, Maldad	B.Tech. (Food Tech.)	40
37.	College of Agri. Bio-Technology, Loni, Tal. Rahata	B.Sc. (Agri. Bio-Tech.)	80
38.	K.K. Wagh College of Agri. Bio-Technology, Nasik-422 003	B.Sc. (Agri. Bio-Tech.)	80
39.	College of Agri. Bio-Technology, Wadala	B.Sc. (Agri. Bio-Tech.)	40
40.	Modern College of Agri. Bio-Technology, Paud, Tal. Mulshi	B.Sc. (Agri. Bio-Tech.)	40
41.	College of Agriculture Biotechnology, Rajlakshmi Foundation, At. Madadgaon	B.Sc. (Agri. Bio-Tech.)	40
42.	College of Agriculture Biotechnology, Baramati	B.Sc. (Agri. Bio-Tech.)	40
43.	College of Agricultural Business Management, Akurdi	B.B.A. (Agri.)	80
44.	College of Agricultural Business Management, Narayangaon, Tal. Junnar	B.B.A. (Agri.)	80
45.	College of Agricultural Business Management, Sangli	B.B.A. (Agri.)	40
46.	College of Agri. Business Management, Gunjalwadi, Tal. Sangamner	B.B.A. (Agri.)	40
47.	College of Agricultural Business Management, Loni, Tal. Rahata	B.B.A. (Agri.)	40
48.	College of Agricultural Business Management, Nashik	B.B.A. (Agri.)	40
49.	College of Animal Husbandry, Baramati	Animal Husbandry	30
C) Agril.Tech.Schools & Mali Training, Centers			
1.	Ghatak krishi tantra vidyalaya Manjarifarm (Pune), Kolhapur, Dhule, Borgaon (Satara), Solapur, Digras (Sangali), Puntamba (Ahmednagar), Jalgaon, Malegaon (Nashik)	Agril Diploma	60 (each)



2.	Agril Tech.School, Manjari farm (Girl)	Agril Diploma	60
3.	Private Agril Tech. Politechnics (Total - 85)	Agril Politechnics Diploma	60 (each)
4.	Mali Training Center, GaneshKhind.Pune	Certificate Course	40
5.	Private Mali Training Center, (Total - 04)	Certificate Course	40 (each)

No. of Students passed out

Sl. No.	Degree programme	No. of Students pass out
A. Graduate Degree programme		
1	B.Sc. (Agri.)	1526
2	B.Sc. (Hort.)	83
3	B.Tech. (Agri. Engg.)	199
4	B.Tech.(Food Technology)	173
5	B.Sc.(Agril. Bio.Tech)	175
6	BBA (Agri)	191
	Total	2347
B. Post Graduate Degree programme		
1	M.Sc (Agri.)	295
2	M.Sc (Hort.)	19
3	M. Tech. (Agri. Engg.)	19
4	Ph.D. (Agri.)	42
5	MBA(Agri.)	21
6	M.Sc. (Agri. Bio Tech.)	03
	Total	399

Enrolment of the students at PGI, Rahuri

Sl. No.	Name of the Department	M.Sc. (Agri.)				Ph.D.				Total
		Fist Year		Second Year		Fist Year		Second Year		
		Regular students	In-service students	Regular students	In-service students	Regular students	In-service students	Regular students	In-service students	
1	Agronomy	31	1	31	1	6	3	6	3	82
2	Genetics and Plant Breeding	31	-	31	-	6	-	6	-	74
3	Plant Physiology	6	-	6	-	4	-	4	-	20
4	Seed Technology	9	-	9	-	4	-	4	-	26
5	Agricultural Economics	21	-	21	-	4	2	4	2	54
6	Agricultural Extension	31	1	31	1	4	1	4	1	74



7	Animal Science	15	-	15	-	4	-	4	-	38
8	Dairy Science	6	-	6	-	4	-	4	-	20
9	Agricultural Entomology	31	-	31	-	6	1	6	1	46
10	Plant Pathology	21	-	21	-	6	4	6	4	62
11	Agricultural Microbiology	18	-	18	-	4	-	4	-	44
12	Soil Science & Agricultural Chemistry	31	-	31	-	4	2	4	2	74
13	Biochemistry	9	-	9	-	-	-	-	-	18
14	Food Science and Technology	9	-	9	-	2	-	2	-	22
15	Inter Faculty, IWM	9	-	9	-	2	1	2	1	24
16	Agril. Meteorology	6	-	6	-	2	-	2	-	16
17	Fruit Science	6	-	6	-	4	-	4	-	20
18	Vegetable Science	6	-	6	-	4	1	4	1	22
19	Floriculture and landscape gardening	6	-	6	-	-	-	-	-	12
20	Agril. Process Engineering	4	-	4	-	3	-	3	-	14
21	Farm Power Machinery Engg.	4	-	4	-	3	-	3	-	14
22	Irrigation and Drainage Engg.	4	-	4	-	3	-	3	-	14
23	Soil and Water Conservation Engineering	4	-	4	-	3	-	3	-	14
Total		314	2	314	2	82	15	82	15	826

Successful students of the Post Graduate Institute, MPKV, Rahuri

Sl. No.	Department	M. Sc. (Agri) PGI, Rahuri	Ph.D.	Total
1)	Agronomy	16	2	18
2)	Genetics and Plant Breeding	7	4	11
3)	Plant Physiology	5	2	7
4)	Seed Technology	10	4	14
5)	Soil Science & Agricultural Chemistry	9	1	10
6)	Agricultural Entomology	25	5	30
7)	Agricultural Extension	16	-	16



8)	Agricultural Economics	9	2	11
9)	Plant Pathology	12	4	16
10)	Agricultural Microbiology	4	-	4
11)	Animal Science	12	-	12
12)	Dairy Science	3	1	4
13)	Food Science and Technology	2	1	3
14)	Biochemistry	5	-	5
15)	Inter Faculty, IWM	9	-	9
16)	Fruit Science	5	-	5
17)	Vegetable Science	5	2	7
18)	Agril. Biotechnology	3	-	3
	Total	157	28	185

Agril Diploma and Polytechnics passed out Students

Particulars	Government	Constitutional
Agril Diploma	459	2820
Mali Training Center, Ganeshkhind, Pune	35	-
Constitutional Mali Training Center (Total- 04)	-	68



3. Research



The jurisdiction of Mahatma Phule Krishi Vidyapeeth, Rahuri extends over the Western Maharashtra comprising of 10 districts divided into four agro climatic zones viz., Western Ghat Zone, Sub-montane Zone, Plain zone and Scarcity zone extended from Solapur to Nandurbar. In addition, Jalgaon district with assured rainfall which falls in Central Plateau Zone is in the jurisdiction of the university.

For conducting the research on soil, climate, cropping system, livestock and other aspects of farming business, the university has a network of research stations spread in different agro climatic zones. In all, 27 research stations are located in 4 agro climatic zones. The State level Crop Specialists are placed at Jalgaon (Oilseeds), Padegaon (Sugarcane), Niphad (Wheat) and Solapur (Soil). In addition to this, 4 Zonal Research Stations are located at Igatpuri, Pune, Kolhapur and Solapur. There are 18 Sub-Research Stations where mainly verification of research work is being done to test the technologies developed by the university as well as to takeup the research programmes based on feedbacks received from the farmers.

At present, there are 76 non-plan schemes funded by State Govt., 48 AICRPs on different crops /plant sciences, 2 Network Projects funded by ICAR on 100% basis. There are one Centrally Sponsored Research Schemes funded by the Central Govt., Ministry of Agriculture, 25 ad-hoc research projects funded by different agencies, 4 Research Projects under National Horticulture Mission, 2 National Innovative Projects, one project from Science and Technology Department, 4 International collaboration projects, 6 NICRA projects for climate change are in operation in the jurisdiction of MPKV.

Taking into consideration the availability of land, weather conditions and resources, the university has concentrated its efforts to develop suitable technologies for dryland agriculture, irrigated farming as well as for hi-tech agriculture. During the last 44 years, the university has released quite good number of high yielding varieties (more than 226) of cereals, pulses, oilseeds, vegetables, sugarcane, fruits, flowers and other cash crops. The appropriate agrotechniques for enhancing agricultural production and productivity of different crops have also been passed on to the farmers. The contribution of university in water management is quite significant. The research on micropropagation, farm machinery, dryland horticulture, integrated pest and nutrient management including biofertilizers, mushroom production etc. is worth mentioning. The university has focussed its attention on location specific and need based research activities in order to cater the needs of all types of farmers and farming groups. Biotechnology with its vast potential and challenges is important to agricultural development. This university is developing biotechnological competence in the areas of plant tissue culture, molecular biology, biocontrol and biofertilizers.

During the period under report, university has recommended 5 crop varieties and 2 farm implements for release along with 54 recommendations on various aspects for benefit of the farmers.

Maharashtra has four geographic regions viz., Konkan, Western Maharashtra, Vidarbha and Marathwada, which have different ecological and cropping patterns. On the basis of weather and land conditions, Maharashtra is divided into nine zones viz., North Konkan, South Konkan, Montane Zone, Sub-montane zone, Plain Zone, Scarcity Zone, Central Plateau Zone, Western Vidarbha and Eastern Vidarbha. To cater the needs of these zones and improve the production and productivity of different crops, this university has planned various research and extension programmes. Emphasis is given on sustainable agriculture, including poultry, sheep and goat rearing, apiculture, fisheries, sericulture etc.

The areas have been identified for better adaptation of cropping patterns such as sugarcane in Kolhapur, Sangli, Pune and Ahmednagar, grapes in Nashik, Sangli, Pune and Solapur, fruits in Pune, Ahmednagar, Sangli and Solapur district to harvest maximum yield and profit.



Zonal, State Level, Lead and Verification Research Stations of the University

Sl. No.	Research Station	Lead Function (s)	Verification Function (s)
A. Western Ghat Zone			
1	Igatpuri (Zonal Agril. Research Station)	Rice, Niger, Silviculture, Soil Water Conservation Engineering	Ragi, Beans, Rainfed fruits, Plantation crops, Coffee, Turmeric
2	Lonavala	Rice (Screening for blast)	--
3	Mahabaleshwar	Wheat (Screening against rust)	Vegetables (cruciferous), Berries
4	Radhanagari	Paddy	Beans, Wheat, Wal
B. Sub-Montane Zone			
1	Kolhapur (Zonal Agril. Research Station)	Maize, Small Millets, Pandharpur Buffaloe, Horticultural Systems, Sugarcane,	Grasses, Rainfed fruits & Vegetables, Soybean, Groundnut, Organic Farming in Vegetables
2	Regional Sugarcane and Jaggery Research Station, Kolhapur	Sugarcane, Jaggery	Sugarcane based Cropping System
3	Gadhinglaj	Organic farming, Basmati Rice	Sorghum (K), Pulses, Chilli, and Oilseeds
4	Karad	INM for Cropping Systems	Pulses, Maize, <i>Kharif</i> Jowar, Soybean, Sunflower, Groundnut,
5	Vadgaon Maval	Rice	Rice based Cropping System.
C. Plain Zone			
1	Ganeshkhind, Pune Zonal Agril. Research Station)	Fruits, Vegetables, Flowers, Rajmah Bean, Spices, Plantation Crops, AICRP on Potato	Pulses, Oilseeds and Wheat
2	Digras	Turmeric, Soybean, Groundnut Betelvine, Problematic Soils	<i>Kharif</i> Jowar, Pulses Sugarcane, Sugar beet,
3	Niphad (State Level)	Wheat, Wheat based Cropping Systems	Pearl millet, Pulses and Oilseeds
4	Pimpalgaon Baswant	Grapes, Onion and Garlic	Pomegranate and Vegetables
D. Scarcity Zone			
1	Solapur (State Level) (Zonal Agril. Research Station)	Soils, Dry farming, Safflower Agrometeorology, Sunflower	Pearl millet, Pulses, Sorghum (R)
2	Mohol	Sorghum (R)	Pulses and Oilseeds
3	Jeur	Organic Farming System	<i>Rabi</i> Jowar, Pulses
4	Pandharpur	Pulses, Oilseeds	Arid Zone Fruit Crops
5	Chas	--	Dry farming, Pearl millet, Pulses (K), Sorghum (R)
6	Padegaon (State Level)	Sugarcane, Sugarcane based Farming & Cropping System	Sugar beet



7	Rahuri	Sorghum, Pulses, Irrigated Cotton, Forages, Grasses, Groundnut (S), Fruits, Vegetables, Cropping System, Water Management, Organic Farming, IPM, Biotechnology, PHT, Farm Machinery, STCR, Cattle, Goat, Sheep, Seed technology, Jute and Under utilised crops	--
8	Kopargaon	Sunflower	Pearl millet, Pulses, Soybean, Cotton and Wheat
9	Shrirampur	Citrus	--
10	Dhule	Dry farming, Pearl millet, Grasses	Sorghum (K), Pulses, Oilseeds, Rainfed Cotton, Arid Zone Fruit Crops
11	Jadhavwadi (Pune)	Fig and Custard apple	Fig and custard apple
12	Lakhmapur	Pomegranate	Pomegranate
E. Central Plateau Zone			
1	Jalgaon (State Level)	Oilseeds, Banana and Betelvine, Rainfed Cotton	Pulses, Sorghum (K), Soybean, Sunflower



SIGNIFICANT RESEARCH ACHIEVEMENTS**Released Varieties****1. Wheat : Phule Samadhan (NIAW 1994)**

Aestivum Wheat variety "Phule Samadhan" is recommended and released for timely sown (1-15 November) and late sown (16 Nov. to 15th December) condition in Maharashtra

2. Niger : Phule Vaiterana (IGPN 8004)

Niger variety "Phule Vaiterana" (IGPN 8004) having good oil and high protein content is recommended for cultivation in the *Kharif* season for Maharashtra State.

Horticulture Crops**1. Mango : Phule Abhiruchi (Selection GK-PM-5)**

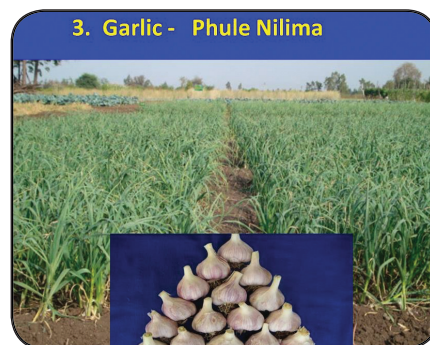
Mango Selection Phule Abhiruchi is recommended for pickling purpose in Maharashtra.

2. Custardapple: Phule Purandar (JWC-1)

Custard apple selection is recommended and released in Maharashtra based on special characters like higher yield, uniform size big fruits with less seed content, high pulp percentage and more milky white carpels.

3. Garlic : Phule Nilima (Selection 10-3)

Garlic Phule Nilima (Sel.10-3) having higher yield, attractive violet coloured, big size bulbs with bold cloves, better storability (minimum PLW) and field tolerant



to diseases and pests is recommended and released in Western Maharashtra.

Agriculture, Farm Implements Released and Registration**1) Manually operated 'Phule sorghum up-rooter'**

Manually operated 'Phule sorghum up-rooter' developed by Mahatma Phule Krishi Vidyapeeth is recommended for harvesting of sorghum stalks with roots.

**2) Manually operated 'Phule medicinal nut sheller'**

Manually operated 'Phule medicinal nut sheller' developed by Mahatma Phule Krishi Vidyapeeth is recommended for shelling of hirda and ritha nuts.



RECOMMENDATIONS

Natural Resource Management

1. Application of 10 t FYM ha⁻¹ with nitrogen, phosphorus and potassium nutrient for 40 q ha⁻¹ yield target of Bt. Cotton and maintaining the soil fertility is recommended for medium deep black soils of Western Maharashtra.

With FYM	Without FYM
$FN = 9.58 \times T - 1.15 \times SN - 1.42 \times FYM$	$FN = 10.36 \times T - 1.21 \times SN$
$FP_2O_5 = 3.62 \times T - 2.99 \times SP - 1.59 \times FYM$	$FP_2O_5 = 4.62 \times T - 3.83 \times SP$
$FK_2O = 8.32 \times T - 0.45 \times SK - 3.77 \times FYM$	$FK_2O = 8.57 \times T - 0.46 \times SK$

Where, FN, FP_2O_5 and FK_2O are fertilizer N, P_2O_5 and K_2O in kg ha⁻¹ respectively. T is yield target in q ha⁻¹ from 30-45 q for Bt. cotton and SN, SP and SK are soil available N, P and K in kg ha⁻¹

2. Under Bt. cotton wheat cropping sequence in medium deep black soils of Western Maharashtra nutrient application as per 55 qha⁻¹ yield target of Bt. Cotton with 10 t ha⁻¹ FYM + incorporation of wheat straw and 50 q ha⁻¹ yield target of wheat with residual effect of FYM + wheat straw is recommended for higher monetary return, benefit cost ratio as well as soil fertility improvement.

Bt. Cotton	Wheat
$FN = 9.58 \times T - 1.15 \times SN - 1.42 \times FYM$	$FN = 7.54 \times T - 0.74 \times SN$
$FP_2O_5 = 3.62 \times T - 2.99 \times SP - 1.59 \times FYM$	$FP_2O_5 = 1.90 \times T - 2.88 \times SP$
$FK_2O = 8.32 \times T - 0.45 \times SK - 3.77 \times FYM$	$FK_2O = 2.49 \times T - 0.22 \times SK$

Where FN, FP_2O_5 and FK_2O are fertilizer in kg ha⁻¹ respectively. T is yield target (qha⁻¹) for Bt. Cotton and Wheat. SN, SP and SK are soil available N, P and K kg ha⁻¹ respectively.

3. Application of 20t ha⁻¹ FYM with Nitrogen, Phosphorous and Potassium fertilizers for 200 t ha⁻¹ yield target of preseasonal sugarcane (Cv. Phule 265) is recommended for medium deep black soils of Western Maharashtra.

Fertilizer prescription equations

With FYM	Without FYM
$FN = 4.03 \times T - 1.43 \times SN - 3.81 \times FYM$	$FN = 4.21 \times T - 1.49 \times SN$

$FP_2O_5 = 1.23 \times T - 2.44 \times SP - 1.83 \times FYM$	$FP_2O_5 = 1.39 \times T - 2.75 \times SP$
$FK_2O = 2.26 \times T - 0.55 \times SK - 1.40 \times FYM$	$FK_2O = 2.36 \times T - 0.58 \times SK$

Where FN, FP_2O_5 and FK_2O fertilizer N, P_2O_5 and K_2O in kg ha⁻¹, T is yield target in t ha⁻¹ and SN, SP and SK are soil available N, P and K in kg ha⁻¹, FYM in t ha⁻¹

4. The drilling of paddy at 30 cm spacing followed by application of 75 per cent recommended dose (75: 37.5: 37.5 NPK kg per hectare = 130.5 kg Urea, 82.5 kg DAP and 62.25 kg MOP per hectare) through 2.7 gram briquette of Urea-DAP-MOP (1,01,944 briquettes per hectare) each at 16 cm distance in alternate row at 5-7 cm depth is recommended for higher economical yield of drilled paddy cultivation in Sub-montane Zone of Maharashtra.

5. Set planting of perennial grass, Phule Marvel-06-40 at 45cm x 30 cm spacing with fertilizer dose of 30:30:20 kg NPK ha⁻¹ at planting and 30 kg N ha⁻¹ be applied one month after planting is recommended for obtaining higher green fodder yield in Scarcity Zone of Western Maharashtra.

6. The application of 50 per cent recommended dose of nitrogen (67.50 kg ha⁻¹) through chemical fertilizer (Urea 145 kg ha⁻¹) + 50 per cent nitrogen through FYM (5 tonnes ha⁻¹) and recommended dose of phosphorus and potassium (40 kg ha⁻¹ each) to maize crop in medium deep soil is recommended for higher monetary returns in Scarcity Zone of Maharashtra.

7. The crop management package for organic cultivation of kharif groundnut is recommended as follows:

1. Preparation of enriched farm yard manure (FYM) @ 7.5t/ha with micros (Bio-fertilizers- Rhizobium, PSB, Plant growth promoting rhizobacteria + biopesticides - pseudomonas fluorescens and trichoderma @ 1 kg/t each before 21 days of sowing and application in soil 7 days before sowing.

2. Seed treatment with biofertilizers each of rhizobium, PSB, PGPR 250 gm/10kg seed and biopesticides- pseudomons and trichoderma 5gm/kg seed before sowing.

3. Foliar application of Neem Seed Kernel Extract @ 5% at 40-45 DAS for control of sucking pest.

8. To obtain higher yield and monetary returns of



rainfed *rabi* sorghum in Western Maharashtra region, through in-situ moisture conservation; the preparation of compartmental bunding (3.60 m x 3.60 m) during first week of August followed by seed sowing at optimum moisture during third week of September and reconstruction of flat bed by “Bund-former” (Sara) implement is recommended.

9. Seedling transplanting in pigeon pea is recommended to obtain higher grain yield in medium deep soils of Scarcity Zone of Maharashtra with considering the probability of onset monsoon in *kharif* season, the seeds of semi-spreading type of Vipula variety be sown in plastic bags in first week of June and 21-28 days old seedling be transplanted at 90cm x 30cm spacing.

10. Application of recommended dose (625: 250: 250 NPK, gm/plant) of water soluble fertilizers in 22 weekly splits as per following schedule is recommended for improved yield and quality of fruits, efficient water and nutrient use and enhanced returns from pomegranate in light medium soils.

Fertilizer schedule

Proportion of nutrients to be applied in 22 weekly splits

Days after Bahar Initiation	% N	% P	% K
1-35 (5 equal weekly splits)	25	35	20
36-105 (10 equal weekly splits)	35	50	25
106-140 (5 equal weekly splits)	25	15	30
141-154 (2 equal weekly splits)	15	-	25
Total	100	100	100

11. Application of recommended dose (120:60:60 NPK kg /ha) in water soluble form through drip in 14 weekly splits as per given schedule alongwith 3 foliar sprays of 2 % urea phosphate at 30, 45 and 60 DAP is recommended for higher yield and efficient water and nutrient use for Bt cotton in medium deep black soils.

Fertilizer Schedule : Per cent nutrients to be applied in 14 weekly splits

Days after Bahar Initiation	N		P		K	
	%	(kg/ha)	%	(kg/ha)	%	(kg/ha)
1-21 (3 equal weekly splits)	30	36.0	22	13.2	10	6.0
22-63 (6 equal weekly splits)	25	30.0	40	24.0	30	18.0
64-77 (2 equal weekly splits)	28	33.6	30	18.0	22	13.2
78-98 (3 equal weekly splits)	17	20.4	8	4.8	38	22.8
Total	100	120	100	60	100	60

12. Application of 80% ETc irrigation water at 5 days interval is recommended for improved yield, efficient water use and enhanced returns from pomegranate cultivated in light medium soils.

13. Application of recommended dose of wheat (120:60:40 NPK kg /ha) in water soluble form through drip in 12 weekly splits as per given schedule alongwith 3 foliar sprays of 2 % urea phosphate at 30, 45 and 60 DAP is recommended for higher yield, efficient water and nutrient use for wheat in medium deep black soils.

Fertilizer Schedule

Per cent nutrients to be applied in 12 weekly splits

Days after planting	N		P		K	
	%	(kg/ha)	%	(kg/ha)	%	(kg/ha)
1-21 (3 equal weekly splits)	25	30.0	15	9.0	24	9.6
22-42 (3 equal weekly splits)	47	56.4	20	12.0	48	19.2
43-63 (3 equal weekly splits)	20	24.0	35	21.0	16	6.4
64-84 (3 equal weekly splits)	08	9.6	30	18.0	12	4.8
Total	100	120	11	60	100	40

14. Application of recommended dose (120:80:120 NPK kg /ha) in water soluble form through drip in 11 weekly splits as per given schedule alongwith 3 foliar sprays of 2 % urea phosphate at 30, 45 and 60 DAP is recommended for efficient water and nutrient use and



higher returns from *rabi* potato cultivated in medium deep black soils.

Fertilizer Schedule

Per cent nutrients to be applied in 11 weekly splits

Days after planting	N		P		K	
	%	(kg/ha)	%	(kg/ha)	%	(kg/ha)
1 - 21 (3 equal weekly splits)	15	18	20	16	15	18
22 - 42 (3 equal weekly splits)	35	42	40	32	35	42
43 - 63 (3 equal weekly splits)	40	48	20	16	30	36
64 - 77 (2 equal weekly splits)	10	12	20	16	20	24
Total	100	120	100	80	100	120

15. In Western Maharashtra for obtaining higher grain and fodder yield, net monetary returns and water use efficiency, summer pearl millet be sown between 5th to 25th February and irrigated at 15-20 days interval (150 mm CPE) with 7 cm depth is recommended.

16. Pre emergence application of 15 milliliter oxyfluorfen 23.5% EC per 10 liters of water within two-three days after sowing for control of weeds in paddy nursery is recommended for Submontane Zone of Maharashtra.

17. Spraying of herbicides Oxyfluorfen 23.5 % EC @ 7.5 ml + Quizalofop - ethyl 5% EC @ 10 ml per 10 liter of water at 25 days after transplanting and one hand weeding at 45 DAT is recommended for effective weed control in onion

HORTICULTURE

18. For sustainable orchard management and higher quality fruit production the pomegranate planting is recommended at 4.5 X 3.0 m spacing

19. A set plantation technique of onion is recommended for achieving early maturity (75 days), higher bulb production and profitability of kharif onion.

A) Package of practices for set production:

1. Prepare the flat beds of 3 X 2 m² size for set preparation.

2. Before seed sowing add 10 kg FYM with biofertilizers 10 g *VAM*, 5 g each of *Azospirillum* and *PSB*, 250 g of fertilizer (15:15:15) and 25 g of Copper oxychloride/bed and then well mixed in soil.

3. The seeds of onion (20 g/bed) of cv. Baswant -780 or Phule Samarth should be sown 10 cm apart in lines from IInd fortnight of January.

4. Irrigation water should be withheld 10 to 15 days before harvest of sets.

5. Spraying of Carbendazim 10 g + sticker 10 ml/ 10 lit of water 10 days before harvesting of sets and after harvest spraying of Mancozeb or Copper oxychloride 25 g / 10 lit. of water should be done to avoid storage losses of sets.

6. Harvest onion sets with tops and tie in bundles and stored in well ventilated storage.

B) Onion set plantation technology

1. The transplanting of stored sets should be done from second fortnight of June for better quality onion production within 70 to 75 DAT.

2. For better marketable yield and storage (3 months) quality one pre-harvest spray of Carbendazim @10 g + sticker 10ml/10 lit. of water should be taken at 10 days prior to harvest.

3. The harvested bulbs along with tops should be shade cured for 10 days.

20. Rejuvenation and improvement of local, senile mango orchards under western Maharashtra conditions is recommended through Top-working technique, where tree beheading be done at 2 m from ground level during November-December followed by wedge grafting with improved scion cultivar (e. g. *Kesar*) during February-March, respectively.

Prominent features of top work technology :

1. A recommended fertilizer dose (50 kg FYM, 1500:500:500 g NPK/tree) be applied in the month of June followed by irrigation

2. Seedling originated, local and senile trees should be cut 2m from ground level by keeping 2-4 primary branches on the main trunk during winter months, November or December

3. Trees should be cut by sharp slanting cut towards inner side of branch to enhance sprouting of apical buds from outer sides to promote open center system.

4. Immediately upon tree beheading following package of plant protection be on the top most priority to protect from the devastating pest, stem borer.



i) The loose bark on beheaded tree must be rubbed off and spray with Carbaryl 50% @ 4g/lit.

ii) Tree pastings: A paste containing Chloropyrifos (50ml/ 10 l) + Neem oil (50ml/ 10 l) + COC (40g/ 10 l) + Methomil (15g/ 10 l) + Sticker (15ml/ 10 l) + Geru (4kg /10 l) be made and applied on trunk and branches of beheaded tree.

iii) Soil application of Thimath 10 G @ 100 g/tree, 15 days after tree pasting. i.e. at the time of second irrigation be done.

iv) Spray of Thiodicarp (15g/ 10 l) after one month of tree pasting be given.

(This package must be repeated immediately after first shower during May or June.)

v) Upon pasting of beheaded tree, cut ends of beheaded branches be particularly treated with 10 % COC + cow dung paste to heal the wounded portion quickly and to avoid drying of pruned branches.

5. Immediately after beheading, one kg of Suphala (15:15:15) be applied at periphery of each tree followed by irrigation. Second irrigation is given at 15 days interval to enhance apical bud sprouting.

6. After tree deheading, within a period of 45-55 days, bud sprouting is noticed. Among sprouting, only 5-10 healthy apical buds on each headed back branch be retained for successive grafting.

7. Particularly during first year after tree beheading, sprouting of auxiliary buds on the beheaded tree is a regular phenomenon. Hence, disbudding practice must be regularly undertaken twice a month.

8. Upon 75-90 days of tree beheading, when copper red leaves of new stock shoot turned to green, coupled with 5-10 mm shoot diameter, a wedge grafting preferably with scion cv. *Kesar* be undertaken. However, by choice of individual gardener, other improved scion cultivars viz., *Ratna*, *Sindhu* etc. be used for top working of mango trees. A week prior to wedge grafting the practice of defoliation of scion stick is used for swelling of apical buds. Minimum six wedge grafts be undertaken on each beheaded branch and among these 3 well spaced healthy grafted shoots per branch be confirmed after 3 months period and should be allowed for further growth. During initial phase of first year, breakage of grafted shoots may be experienced due to high wind velocity.

9. Due care be taken particularly within the period of May to September, against incidence of stem borer on trunk and branches of mango top worked trees during the first year.

10. De-blossoming in first year be done for vigorous and strong canopy development.

11. In the confined and protected orchard from animals, the technology of tree beheading may be attempted at 1m ground height but, having primary branches on the main trunk is the prerequisite to reduce the mortality of beheaded tree. Tree beheading at lower height offers more convenience for top working for wedge grafting, reduce risk of stem borer and breakage of grafted shoots due to high wind. Nevertheless, the tiresome work load on disbudding practice for entire year may be reduced due to cut down of plant height. Also, it will be an alternative frame work for plant canopy of top worked tree.

21. One vigorous sucker per plant three month after flower initiation (bunch emergence) of main crop is recommended for higher yield, better quality and high returns in banana ratoon crop.

22. It is recommended to grow cv. Grand Naine of banana on medium black soils of Maharashtra for maximum yield, better quality and higher economical returns.

BASIC SCIENCE, FOOD SCIENCE AND TECHNOLOGY

23. The proposal has been submitted for obtaining the patent for “Phule Tamarind Jelly” technology developed by Mahatma Phule Krishi Vidyapeeth.

1. Mix the tamarind flesh and water in appropriate proportion and boil it at 105°C temperature to separate the extract. Repeat this procedure once again to get the extract from tamarind residue.

2. Addition of sugar and pectin to this extract as per the standardized quantities is recommended for preparation of good quality tamarind jelly.

24. It is recommended that good quality popped wheat can be obtained from durum wheat cultivar of Godavari by adopting following process.

1. Soaking wheat for 3 days, boiling in water



containing NaHCO_3 + salt 1.5% each for 60 min and drying to 12-14 % moisture.

2. Popping of pretreated wheat at 220 to 240°C.

3. The snack (*Chiwada*) prepared by using pops, packed in polythene bags can be stored at ambient condition for one month.

25. The biochemical parameters viz; ascorbate peroxidase activity and rate of lipid peroxidation has been recommended for screening chickpea genotypes for drought tolerance.

26. In kharif season harvesting of sweet sorghum green canes at 45 days after 50% flowering is recommended for obtaining maximum juice, sugar content and ethanol yield.

27. Temperature Induction Response (TIR) with comparative analysis of biochemical parameters identified wheat cultivar NIAW-917 as a thermotolerant cultivar and be used in further breeding programme for abiotic stress management.

28. Sowing of sweet sorghum in second fortnight of June is recommended for obtaining maximum juice, sugar content and ethanol yield.

29. The In-between paper method comprised of four towel paper and 25 °C temperature is recommended for seed germination test of *Kabuli* chickpea in the laboratory.

30. Use of potassium metabisulphite (KMS) as a preservative @ 600 ppm in custard apple pulp followed by blast freezing and storage at -20°C is recommended

for preservation of custard apple pulp up to 90 days.

31. The cut flowers of tuberose wrapped in one percent vented 100 gauge polypropylene film and stored at 10 °C temperature for six days and kept in 200 ppm 8 HQC (8 Hydroxyquinoline citrate) vase solution is recommended for obtaining more post harvest life of 15 days.

PLANT PROTECTION ENTOMOLOGY

Insect Pest and Nematode Management

32. Spray of Chlorantraniliprole 18.5 % SC @ 3 ml or Emamectin benzoate 5 % SG @ 4 g per 10 liters of water, first at the initiation of flowering when one larva per plant is observed, if required at 50 % flowering second and third spray at pod development stage is recommended for the management of pod borer *Helicoverpa armigera* on pigeonpea.

33. Sowing at 120 cm x 60 cm of irrigated Bt cotton in Western Maharashtra is recommended for the management of sucking pests (aphids, jassids, thrips and whiteflies).

34. Spray Diafenthiuron 50 WP @ 12 g or Acetamiprid 20 SP @ 2g per 10 liters of water mixing when jassid and whiteflies population reaches to economic threshold level on Bt cotton, if required, second spray at an interval of 15-20 days is recommended.

35. The following linear regression equation for short term forewarning (period to one week) of the incidence of safflower aphid based on weather parameters are recommended.

Four linear regression equations viz.,

$$1. \text{APH} = 1002.17 - 29.70 * T_{\max} - 13.49 * T_{\min} + 4.64 * \text{RH-II for normal sown A-1.}$$

$$2. \text{APH} = 995.57 - 32.28 * T_{\max} - 18.67 * T_{\min} + 9.13 * \text{RH-II for late sown A-1.}$$

$$3. \text{APH} = 1333.54 - 44.33 * T_{\max} - 22.08 * T_{\min} + 11.90 * \text{RH-II for normal sown CO-1.}$$

$$4. \text{APH} = 1450.41 - 49.29 * T_{\max} - 29.02 * T_{\min} + 15.92 * \text{RH-II for late sown CO-1.}$$

[APH=Aphid population (in equation), T_{\max} =Max. Temp, T_{\min} =Min. Temp, RH-II=Relative Humidity (Evening).]



36. Release 10 larvae of predatory insect, *Scymnus coccivora* Ayyar or 5 larvae of *Cryptolaemus montrouzieri* Mulsant, twice per plant in the month of July and August is recommended for the management of mealy bugs on custard apple.

PLANT PATHOLOGY

37. The following linear regression equations for short term forewarning (prior to one week) the *Alternaria* leaf spot incidence of safflower based on weather parameters are recommended in scarcity zone of Maharashtra.

1) Early sowing (2nd fortnight of August) :
 $PDI = 104.28 - 6.72 * T_{min} + 2.19 * RH-I - 1.81 * RH-II - 0.37 * RF$

2) Normal sowing (2nd fortnight of September) :
 $PDI = 440.91 - 7.97 * T_{max} - 1.17 * T_{min} - 1.67 * RH-I$

3) Late sowing (2nd fortnight of October) : $PDI = 295.03 - 6.23 * T_{max} - 1.23 * T_{min} - 0.729 * RH-I$

[Where, PDI=Percent disease index, T_{min} =Minimum temperature, T_{max} =Maximum temperature, RH-I=Morning relative humidity, RH-II=Evening relative humidity and RF=Rainfall].

38. A module for management of rice diseases viz., leaf, neck and node blasts, sheath rot, leaf scald, brown spot and seed discolouration is recommended as below.

- Seed treatment with benomyl @ 3 g kg⁻¹ seed
- Soil application of *palin* ash at sowing on raised beds @ 1 kg m⁻²
- Soil application of rice straw @ 2 tones ha⁻¹ at transplanting
- Three sprays of carbendazim @ 10 g / 10 L water at 15 days interval starting first spray at disease appearance.

39. To avoid the para wilt incidence under irrigated conditions, the sowing of Bt cotton be undertaken from 2nd fortnight of May to first week of June with 8-15 days irrigation interval.

Irrigation Drainage Engineering

40. The drainage coefficient values given in following tables are recommended for the design of surface drainage system for different *Tahsils* of Sangli district. Alternatively the maps in Geographical Information System (GIS) are proposed for estimating the drainage coefficient values for Sangli district.

Table 1: Drainage coefficient (mm) for ATPADI Tahsil

Basic infiltration rate (mm/hr)	DC for 1 day rainfall for R.I. (years)			DC for 2 day rainfall for R.I. (years)			DC for 3 days rainfall for R.I. (years)			DC for 4 days rainfall for R.I. (years)			DC for 5 days rainfall for R.I. (years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	24	48	64	8	23	33	1	12	19	-	6	12	-	2	8
2.0	-	24	40	-	-	9	-	-	-	-	-	-	-	-	-
3.0	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-
4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2: Drainage coefficient (mm) for ISLAMPUR Tahsil

Basic infiltration rate (mm/hr)	DC for 1 day rainfall for R.I. (years)			DC for 2 day rainfall for R.I. (years)			DC for 3 days rainfall for R.I. (years)			DC for 4 days rainfall for R.I. (years)			DC for 5 days rainfall for R.I. (years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	42	69	87	21	39	51	10	25	35	4	16	25	1	12	19
2.0	18	45	63	-	15	27	-	1	11	-	-	1	-	-	-
3.0	-	21	39	-	-	3	-	-	-	-	-	-	-	-	-
4.0	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-



Table 3: Drainage coefficient (mm) for JATH Tahsil

Basic infiltration rate (mm/hr)	DC for 1 day rainfall for R.I. (years)			DC for 2 day rainfall for R.I. (years)			DC for 3 days rainfall for R.I. (years)			DC for 4 days rainfall for R.I. (years)			DC for 5 days rainfall for R.I. (years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	53	79	93	23	39	48	12	24	30	6	17	23	2	13	18
2.0	29	55	69	-	15	24	-	-	6						
3.0	5	31	45												
4.0	-	7	21												

Table 4: Drainage coefficient (mm) for KAWATHE MAHANKAL Tahsil

Basic infiltration rate (mm/hr)	DC for 1 day rainfall for R.I. (years)			DC for 2 day rainfall for R.I. (years)			DC for 3 days rainfall for R.I. (years)			DC for 4 days rainfall for R.I. (years)			DC for 5 days rainfall for R.I. (years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	32	56	70	14	28	36	5	16	23	-	9	14	-	4	9
2.0	8	32	46	-	4	12	-	-	-	-	-	-	-	-	-
3.0	-	8	22	-	-	-	-	-	-	-	-	-	-	-	-
4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 5: Drainage coefficient (mm) for MIRAJ Tahsil

Basic infiltration rate (mm/hr)	DC for 1 day rainfall for R.I. (years)			DC for 2 day rainfall for R.I. (years)			DC for 3 days rainfall for R.I. (years)			DC for 4 days rainfall for R.I. (years)			DC for 5 days rainfall for R.I. (years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	40	62	77	17	33	43	8	21	29	3	14	21	-	8	14
2.0	16	38	53	-	9	19	-	-	5	-	-	-	-	-	-
3.0	-	14	29	-	-	-	-	-	-	-	-	-	-	-	-
4.0	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-

Table 6: Drainage coefficient (mm) for PALUS Tahsil

Basic infiltration rate (mm/hr)	DC for 1 day rainfall for R.I. (years)			DC for 2 day rainfall for R.I. (years)			DC for 3 days rainfall for R.I. (years)			DC for 4 days rainfall for R.I. (years)			DC for 5 days rainfall for R.I. (years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	4	20	30	-	10	17	-	2	10	-	-	1	-	-	-
2.0	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-
3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Table 7: Drainage coefficient (mm) for SANGALI Tahsil

Basic infiltration rate (mm/hr)	DC for 1 day rainfall for R.I. (years)			DC for 2 day rainfall for R.I. (years)			DC for 3 days rainfall for R.I. (years)			DC for four days rainfall for R.I. (years)			DC for 5 days rainfall for R.I. (years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	32	73	109	13	38	62	4	23	39	-	15	28	-	10	21
2.0	8	49	85	-	14	38	-	-	15	-	-	4	-	-	-
3.0	-	25	61	-	-	14	-	-	-	-	-	-	-	-	-
4.0	-	1	37	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	13						-						

Table 8: Drainage coefficient (mm) for SHIRALA Tahsil

Basic infiltration rate (mm/hr)	DC for 1day rainfall for R.I. (years)			DC for 2 day rainfall for R.I. (years)			DC for 3 days rainfall for R.I. (years)			DC for 4 days rainfall for R.I. (years)			DC for 5 days rainfall for R.I. (years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	53	76	93	34	50	59	23	37	46	16	27	33	11	20	26
2.0	29	52	69	10	26	35		13	22	-	3	9	-	-	2
3.0	5	28	45	-	2	11	-	-		-	-	-	-	-	-
4.0	-	4	21	-	-	-	-	-		-	-	-	-	-	-

Table 9: Drainage coefficient (mm) for TASGAON Tahsil

Basic infiltration rate (mm/hr)	DC for 1 day rainfall for R.I. (years)			DC for 2 day rainfall for R.I. (years)			DC for 3days rainfall for R.I. (years)			DC for 4days rainfall for R.I. (years)			DC for 5 days rainfall for R.I. (years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	37	57	68	16	28	34	7	16	21	1	9	13	-	4	7
2.0	13	33	44		4	10	-	-		-	-	-	-	-	-
3.0	-	9	20	-	-	-	-	-		-	-	-	-	-	-
4.0	-	-	-	-	-	-	-	-		-	-	-	-	-	-

41. The drainage coefficient values given in following tables are recommended for the design of surface drainage system for different Tahsils of Solapur district. Alternatively the maps in Geographical Information System (GIS) are proposed for estimating the drainage coefficient values for Solapur district.

Table 1 Drainage coefficient (mm) for AKALKOT Tahsil

Basic infiltration rate (mm/hr)	DC for 1 day rainfall for R.I. (years)			DC for 2 day rainfall for R.I. (years)			DC for 3 days rainfall for R.I. (years)			DC for 4 days rainfall for R.I. (years)			DC for 5 days rainfall for R.I. (years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	39	60	73	35	65	84	28	61	79	13	52	76	-	2	71
2.0	8	18	25	-	8	18	-	-	4	-	-	-	-	-	-
3.0	-	4	8	-	-	-	-	-	-	-	-	-	-	-	-
4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Table 2 Drainage coefficient (mm) for AKLUJ Tahsil

Basic infiltration rate (mm/hr)	DC for 1 day rainfall for R.I. (years)			DC for 2 day rainfall for R.I. (years)			DC for 3 days rainfall for R.I. (years)			DC for 4 days rainfall for R.I. (years)			DC for 5 days rainfall for R.I. (years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	52	94	122	42	102	151	31	107	173	17	105	186	2	8	184
2.0	14	35	49	-	27	51	-	17	50	-	4	45	-	-	32
3.0	1	15	25	-	2	18	-	-	10	-	-	-	-	-	-
4.0	-	6	13	-	-	2	-	-	-	-	-	-	-	-	-
5.0	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-

Table 3 Drainage coefficient (mm) for BARSII Tahsil

Basic infiltration rate (mm/hr)	DC for 1 day rainfall for R.I. (years)			DC for 2 day rainfall for R.I. (years)			DC for 3 days rainfall for R.I. (years)			DC for 4 days rainfall for R.I. (years)			DC for 5 days rainfall for R.I. (years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	44	74	92	36	69	89	28	66	88	16	66	90	0	54	85
2.0	10	25	34	-	11	20	-	-	8	-	-	-	-	-	-
3.0	-	9	15	-	-	-	-	-	-	-	-	-	-	-	-
4.0	-	0	5	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 4 Drainage coefficient (mm) for JEYUR Tahsil

Basic infiltration rate (mm/hr)	DC for 1 day rainfall for R.I.(years)			DC for 2 day rainfall for R.I.(years)			DC for 3 days rainfall for R.I.(years)			DC for 4 days rainfall for R.I.(years)			DC for 5 days rainfall for R.I.(years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	56	94	117	24	45	57	01	27	37	05	17	05	0	11	17
2.0	32	70	93	-	21	33	-	03	13	-	-	-	-	-	-
3.0	08	46	69	-	-	09	-	-	-	-	-	-	-	-	-
4.0	-	21.9	44.5	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	21												

Table 5 Drainage coefficient (mm) for KARMALA Tahsil

Basic infiltration rate (mm/hr)	DC for one day rainfall for R.I.(years)			DC for two day rainfall for R.I.(years)			DC for three days rainfall for R.I.(years)			DC for four days rainfall for R.I.(years)			DC for five days rainfall for R.I.(years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	59	96	119	54	93	118	41	85	112	21	62	88	07	57	88
2.0	18	36	47	03	23	35	-	06	20	-	-	-	-	-	-
3.0	04	16	24	-	-	07	-	-	-	-	-	-	-	-	-
4.0	-	06	12	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	05	-	-	-	-	-	-	-	-	-	-	-	-



Table 6 Drainage coefficient (mm) for MADHA Tahsil

Basic infiltration rate (mm/hr)	DC for one day rainfall for R.I.(years)			DC for two day rainfall for R.I.(years)			DC for three days rainfall for R.I.(years)			DC for four days rainfall for R.I.(years)			DC for five days rainfall for R.I.(years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	48	78	98	43	75	94	34	71	95	16	57	83	05	56	88
2.0	12	27	37	-	13	23	-	-	12	-	-	-	-	-	-
3.0	-	10	17	-	-	-	-	-	-	-	-	-	-	-	-
4.0	-	02	13	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 Drainage coefficient (mm) for MALSIRAS Tahsil

Basic infiltration rate (mm/hr)	DC for one day rainfall for R.I.(years)			DC for two day rainfall for R.I.(years)			DC for three days rainfall for R.I.(years)			DC for four days rainfall for R.I.(years)			DC for five days rainfall for R.I.(years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	53	96	122	47	109	150	33	111	166	22	107	164	06	98	159
2.0	14	36	49	-	31	51	-	19	45	-	03	-	-	-	20
3.0	02	16	25	-	4.43	18.0	-	-	6.19	-	-	-	-	-	-
4.0	-	5.9	12.5	-	-	1.52	-	-	-	-	-	-	-	-	-
5.0	-	-	5.26	-	-	-	-	-	-	-	-	-	-	-	-

Table 8 Drainage coefficient (mm) for MANGALVEDHA Tahsil

Basic infiltration rate (mm/hr)	DC for one day rainfall for R.I.(years)			DC for two day rainfall for R.I.(years)			DC for three days rainfall for R.I.(years)			DC for four days rainfall for R.I.(years)			DC for five days rainfall for R.I.(years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	51	85	104	47	84	105	34	78	104	22	70	97	6	57	86
2.0	14	30	40	-	18	28	-	3	16	-	-	-	-	-	-
3.0	1	12	12	-	-	3	-	-	-	-	-	-	-	-	-
4.0	-	3	3	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	2	-	-	--	-	-	-	-	-	-	-	-	-

Table 9 Drainage coefficient (mm) for MOHOL Tahsil

Basic infiltration rate (mm/hr)	DC for one day rainfall for R.I.(years)			DC for two day rainfall for R.I.(years)			DC for three days rainfall for R.I.(years)			DC for four days rainfall for R.I.(years)			DC for five days rainfall for R.I.(years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	42	69	87	39	73	94	28	64	88	16	57	82	06	52	75
2.0	09	22	31	-	13	23	-	-	08	-	-	-	-	-	-
3.0	-	07	13	-	-	-	-	-	-	-	-	-	-	-	-
4.0	-	-	04	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Table 10 Drainage coefficient (mm) for NORTH SOLAPUR Tahsil

Basic infiltration rate (mm/hr)	DC for one day rainfall for R.I.(years)			DC for two day rainfall for R.I.(years)			DC for three days rainfall for R.I.(years)			DC for four days rainfall for R.I.(years)			DC for five days rainfall for R.I.(years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	46	75	88	43	73	88	31	68	88	19	62	84	05	55	82
2.0	11	25	32	-	12	20	-	-	08	-	-	-	-	-	-
3.0	-	09	13	-	-	-	-	-	-	-	-	-	-	-	-
4.0	-	01	4	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 11 Drainage coefficient (mm) for PANDHARPUR Tahsil

Basic infiltration rate (mm/hr)	DC for one day rainfall for R.I.(years)			DC for two day rainfall for R.I.(years)			DC for three days rainfall for R.I.(years)			DC for four days rainfall for R.I.(years)			DC for five days rainfall for R.I.(years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	50	82	105	42	90	127	35	12	134	26	89	133	12	76	121
2.0	13	29	41	-	21	39	-	10	31	-	-	0	-	-	01
3.0	01	11	19	-	-	10	-	-	-	-	-	-	-	-	-
4.0	-	03	08	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	02	-	-	-	-	-	-	-	-	-	-	-	-

Table 12 Drainage coefficient (mm) for SANGOLA Tahsil

Basic infiltration rate (mm/hr)	DC for one day rainfall for R.I.(years)			DC for two day rainfall for R.I.(years)			DC for three days rainfall for R.I.(years)			DC for four days rainfall for R.I.(years)			DC for five days rainfall for R.I.(years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	56	92	115	51	92	119	44	86	111	33	81	110	16	65	96
2.0	16	33	46	01	22	35	-	07	19	-	-	-	-	-	-
3.0	03	15	22	-	-	08	-	-	-	-	-	-	-	-	-
4.0	-	05	11	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	04	-	-	-	-	-	-	-	-	-	-	-	-

Table 13 Drainage coefficient (mm) for SOLAPUR Tahsil

Basic infiltration rate (mm/hr)	DC for one day rainfall for R.I.(years)			DC for two day rainfall for R.I.(years)			DC for three days rainfall for R.I.(years)			DC for four days rainfall for R.I.(years)			DC for five days rainfall for R.I.(years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	48	75	88	45	75	89	34	71	89	21	65	85	06	53	76
2.0	12	26	32	-	13	20	-	-	08	-	-	-	-	-	-
3.0	0	09	13	-	-	-	-	-	-	-	-	-	-	-	-
4.0	-	01	04	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Table 14 Drainage coefficient (mm) for SOUTH SOLAPUR Tahsil

Basic infiltration rate (mm/hr)	DC for one day rainfall for R.I.(years)			DC for two day rainfall for R.I.(years)			DC for three days rainfall for R.I.(years)			DC for four days rainfall for R.I.(years)			DC for five days rainfall for R.I.(years)		
	2	5	10	2	5	10	2	5	10	2	5	10	2	5	10
1.0	47	74	88	48	78	90	34	72	91	24	70	92	08	56	81
2.0	11	25	32	00	15	21	-	-	10	-	-	-	-	-	-
3.0	-	09	13	-	-	-	-	-	-	-	-	-	-	-	-
4.0	-	00	04	-	-	-	-	-	-	-	-	-	-	-	-
5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

42. The crop coefficients given in following table are recommended for the estimation of water requirement of Soybean during *Kharif* season.

Week since sowing	Kc values	
	Penman-Monteith Method	Hargreaves-Samani Method
1	0.51	0.34
2	0.57	0.35
3	0.66	0.41
4	0.76	0.51
5	0.86	0.61
6	0.95	0.71
7	1.02	0.79
8	1.08	0.84
9	1.10	0.87
10	1.09	0.86
11	1.05	0.82
12	0.98	0.77
13	0.80	0.89
14	0.80	0.65
15	0.71	0.62
16	0.65	0.63

Alternatively following equations are recommended

Penman-Monteith method

$$Kc_t = 2.647 \left(\frac{t}{T} \right)^5 + 0.140 \left(\frac{t}{T} \right)^4 - 8.761 \left(\frac{t}{T} \right)^3 + 5.862 \left(\frac{t}{T} \right)^2 + 0.260 \left(\frac{t}{T} \right) + 0.494$$

Hargreaves-Samani method

$$Kc_t = -0.752 \left(\frac{t}{T} \right)^5 + 11.87 \left(\frac{t}{T} \right)^4 - 22.35 \left(\frac{t}{T} \right)^3 + 12.77 \left(\frac{t}{T} \right)^2 - 1.258 \left(\frac{t}{T} \right) + 0.366$$

Where

Kc_t is the crop coefficient of Soybean on t^{th} day; t is day and T is total crop growth period in days

43. The user friendly “Phule Drip Irrigation System Designer” computer software developed by Mahatma Phule Krishi Vidyapeeth is recommended for optimal design and cost estimation of drip irrigation system.

44. The improved four layer filter is recommended for recharge of wells for obtaining more filtration efficiency as given below.

Specifications of four layer filter

Filter layer No.	Filter layer thickness (top to bottom)	Filter material and its size
1	15 cm	Brick flakes (30 to 40 mm)
2	45 cm	Sand grade I (0.6 to 2.00 mm)
3	45 cm	Pea gravel grade I (2.00 to 6.00 mm)
4	45 cm	Angular gravel grade I (9.5 to 15.50 mm)

45. It is recommended to schedule irrigation daily @ 75% of crop evapotranspiration under shadenet house with 75% shading for obtaining maximum production of capsicum (October planting) with better quality and net returns.



46. In naturally ventilated polyhouse, to obtain higher production of capsicum (October planting) with better quality and net returns, scheduling of daily drip irrigation @ 70% of crop evapotranspiration and alternate day fertigation @ 100% of recommended dose through water soluble fertilizers (before flowering: 8.0:2.8:4.0:2.8:0.2 kg ha⁻¹ and after flowering : 6.0:3.0:15.0:3.0:0.3 kg ha⁻¹ N:P₂O₅:K₂O:Ca:Mg) is recommended.

47. The plantation of cucumber (summer) in shadenet house of 75% shading and drip fertigation @ 125% of recommended dose (100:50:50 kg/ha) of soluble fertilizers, after 15 days of planting in 26 equal splits at 4 days interval is recommended for obtaining maximum yield.

SOIL AND WATER CONSERVATION

48. The combination of models viz. inflow simulation using HEC-HMS model, crop-water demand model and optimization model based on Linear Programming (LP) technique developed by Mahatma Phule Krishi Vidyapeeth, Rahuri and Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola is recommended for deciding the optimum storage capacity of rainwater harvesting storage tanks in agricultural watersheds under Sub-montane zone of Maharashtra.

Saline features :

1. The HEC-HMS (v. 3.1.0) is free domain software available on website : www.hec.usacearmy.mil

2. It is a physically-based, semi-distributed watershed model that incorporates both single-event and continuous rainfall-runoff simulation. It gives detail accounting of water budget in the watershed

3. Crop-water demand model decides the day and amount of supplementary irrigation to kharif crops based on daily soil-water deficit.

4. The optimization model using LP technique optimizes the storage capacity of rainwater harvesting structure based on daily inflow, crop-water demand and storage losses such as evaporation and seepage.

49. In Sub-montane Zone of Maharashtra, the sugarcane species viz. *Saccharum spontaneum* (SES-37A) and *Saccharum officinarum* (IJ 76-501) with good soil binding abilities are recommended for effective control of small and medium gullies in combination

with regular structures in upper catchment.

SOCIAL SCIENCES

EXTENSION EDUCATION

50. It is recommended to increase the knowledge level of the brinjal growers regarding recommended plant protection measures through mass media and organizing training programmes for increasing adoption of integrated use of chemical and biological pesticides by the Department of Agriculture in coordination with the State Agricultural University

Recommended Plant Protection Measures

➤ For the control of shoot and fruit borer spraying of 4% neem seed extract or 5 ml. cypermethrin 25% E.C. or 40 EC Trizophos 20 ml. per 10 lit. of water after 2 months of transplanting. Infested branches, fruits should be collected and destroyed.

✓ For avoiding infestation of sucking pest at time of transplanting sow maize for as a border crops. Use of yellow sticky traps.

✓ Erection of pheromone traps @ 100 per ha. Baited with sex pheromone (Leuci-lure) for mass trapping and of lure for three times at an interval of two months.

➤ Spraying of 15 ml. dimethioate per 10 lit. of water, 3 to 4 times as per needs based at an interval of 10

51. For increasing the adoption of the recommended banana production technologies such as use of bio-fertilizers, banana bunch management and plant protection measures, it is recommended to organize cluster demonstrations and group discussions by the Department of Agriculture in co-ordination with State Agricultural University.

Banana Production Technology

- Application of Biofertilizer like Azospirillum and PSB 25 gm/plant at the time of planting

- For Bunch Management – Spraying of 50 gm Potassium di hydrogen Phosphate + 100 gm Urea per 10 lits. of water on Banana bunch and application of 500 gm neem cake per plant.

- For management of banana crop in summer season spraying of antitranspirant (800 gm Kaolin per 10 lits. water at the interval of 15 days).

- For control of sigatoka leaf spot disease,



planting at recommended spacing with proper drainage and avoid water logging, spray 10 ml. propiconazole + 10 ml sticker per 10 lits. of water.

- Infected leaves should not be used for burying at rootzone of plant for manuring. Infected leaves were destroyed by burning.

- For control of Nematode merigold and sunhemp may be grown as an intercrop.

- Spraying of 10 ml dimethoate 30 EC per 10 lits. of water for control insect vectors especially aphids to 15 days for the control of little leaf. Uprooting and destroying infested plants.

- For wilt control alternate drenching of 4 gm blitox per litre of water and 5 gm trichoderma per litre of water at an interval of 10 to 15 days.

AGRIL. ECONOMICS

52. The Comparative economics between small - medium and medium- high adoption group of gram production technology revealed that, the additional increase of 22 and 35 per cent in the output levels and reduction of 7 and 13 per cent in the per quintal cost was due to the adoption of university recommended gram production technology respectively. Hence, it is recommended that the farmers should strictly follow the university recommended package of practices.

Production Technology for Gram

- Use of improved variety seed and seed treatment
- Optimum Sowing time
- Interculturing operations
- INM practices
- IPM practices

53. Comparative economics of grapes and raisin sale in the Scarcity area revealed that the benefit: cost (B: C) ratio of raisin sale (1.72) was more than the sale of fresh grapes (1.24), hence it is recommended that grape growers in Scarcity zone should preferably

undertake raisin making.

54. The economic study of farm ponds in Ahmednagar district revealed an increase in net income (63.95 %), irrigated area (9.86 %), productivity of bajara (16.91 %), cotton (10.07 %), pomegranate (5.94 %), sweet orange (3.54 %), sapota (2.08 %) and number of crossbred cows (33.33 %). Therefore, it is recommended that the construction of farm ponds on large scale be encouraged among the farmers in Drought Prone Area of the state.

Seed Production Programme of 2013-14

(Fig. in qtls)

Type	Cereals	Pulses	Oil seeds	Fiber crops	Fodder crops	Green Manuring crops	Total
2013-14							
Nucleus	504.32	839.51	2349.44	1.83	100.67	0	3795.77
Foundation	1326.88	183.55	1163.74	0	47.78	0	2721.95
Cesrtified/ Truthful	2123.40	594.25	653.78	2.82	42.31	62.05	3478.61
Total	3954.60	1617.31	4166.96	4.65	190.76	62.05	9996.33

Production of planting material of Horticulture

Crops during the year 2013-14

Nursery plants / Grafts	Ornamental plants	Total	Vegetables (qt)		
			Nucleus	Truthful	Total
2013-14					
1168865	32445	1201310	3.71	107.50	111.21

Biopesticides and Biofertilizer production (2013-14)

	Liquid (Litre)	Solid (Qt)
Biopesticide	350	165.50
Biofertilizers	521.75	476.15



4. Extension Education

The Extension Education activities include training of extension personnel, officers of development departments, farmers and dissemination of information through trainings, demonstrations, meetings, discussions, farmers rallies, farm and home visits, exhibitions, publications, newspapers, magazines, etc.

Extension Education activities are being undertaken through Directorate of Extension Education, Agriculture College Extension Blocks, Agril. Technology Information Centre (ATIC), Communication Centre, Regional Extension Centres (RECs), Krishi Vigyan Kendra (KVK), Zonal Agricultural Research and Extension Advisory Committee Meeting (ZAREACs). The Directorate of Extension Education was set up in 1981 with following objectives.

- To conduct short and long duration vocational training for the benefit of farming community in different agro-eco-situations.
- To assess and refine the latest agricultural technology through front line demonstration for its wider adoption.
- To provide farm information services through various extension activities
- To demonstrate the improved technology on the farmer's fields to convince them about advantages and benefits of improved technology i.e. result demonstration.
- To solve local problems in the light of research findings and getting feedback for strengthening research.

In addition to this, this Directorate performs following activities

1. Co-ordination of extension education activities in the jurisdiction of University.
2. Co-ordination of Communication Centre, RECs, DECs, ATIC and AICs functioning.
3. Organization of trainings.
4. Organization of Farmers Rallies & Exhibitions.

With a view to fulfilling the mandatory requirements of extension education the extension education activities are undertaken by the Mahatma Phule Krishi Vidyapeeth, Rahuri through the following units:

1. Krishi Vigyan Kendra

KVK, Dhule was established in May 1983

while KVK Mohol (Solapur), Borgaon (Satara) and Mamurabad Farm (Jalgaon) was established in the year 2011-12 under the jurisdiction of Mahatma Phule Krishi Vidyapeeth, Rahuri for the operational areas in the above districts with following objectives.

1. To organize need-based training in agriculture and allied enterprises to practicing farmers, farm women, rural youth and extension functionaries.
2. To conduct front line demonstrations on farmers' field's on various production technologies about important crops of the district.
3. To conduct on farm trial/adaptive trials in agriculture and allied enterprises based on location specific problems.
4. To organize different extension activities to disseminate technologies.

2. Agricultural College Development Block

Practical training in extension education is being given to the students in College Development Blocks. There are about 60 to 100 villages attached to the constituent colleges viz. Pune, Dhule and Kolhapur. The College Development Block also serves as a laboratory to transfer the improved technology developed by the university. The viability and usefulness of technology developed by the university is tested under different field conditions and farming situations. The field staff working at different blocks provides guidance and help to the farming community. The extension staff also extends the efforts to evaluate and record the expected social and economical changes among farmers. The planning and implementation of extension programmes is carried out by the Department of Extension Education at different colleges.

3. Regional Extension Centres (REC) / District Extension Centres (DEC)

To test and transfer the improved technology from time to time in adjoining areas of respective research and educational institutes, three RECs are started at the constituent colleges, viz., Pune, Dhule and Kolhapur and one at Central Campus, MPKV, Rahuri. Regional Extension Centre consists of four SMS in the subject of Agronomy, Animal Husbandary, Horticulture and Plant Protection. The activities of each REC are governed by Extension Agronomist at regional level, which is technically controlled by Director of Extension Education.



To carry out extension education activities effectively and efficiently, five District Extension Centres (DECs) have been started at different research stations viz. Jalgaon, Padegaon (Satara), Solapur, Digraj (Sangli) and Niphad (Nashik). No separate staff is provided for DECs. The important objectives of the innovative programme are:

1. To organize short duration training classes for upgradation of knowledge of existing staff.
2. To arrange farmers trainings for addressing issues in farming.
3. To interact with farmers and officers for getting feed back on research findings.
4. To organize monthly meetings of different allied departments and interact on various field problems.
5. To integrate teaching, research and extension education activities.

The staff under the RECs and DECs usually undertakes activities relating to transfer of technology in the adjacent areas. The activities like, monthly district workshops, fortnightly trainings, demonstrations on farmers fields, farmers' rallies and technical guidance to farmers are also organized by the centre.

Every Regional Extension Center and District Extension Centre are provided a Mobile Crop Dispensary Van with the facilities to undertake soil and water analysis, diagnosis of diseases, insect, pest instantly on the spot in different villages. The itinerary of this activity is announced and communicated well in advance to the farmers of respective villages and accordingly the farmers avail the guidance and necessary help to solve their problems.

4. Communication Centre

The communication centre of Mahatma Phule Krishi Vidyapeeth, Rahuri was established in May 1982 with the financial assistance of ICAR. However, after discontinuance of the financial assistance from the ICAR, it is being run with own resources of the university. The centre is established for effective use of mass media in transfer of technology. The unit produces different type of farm literature, publicity of news items, organization of exhibitions, organising broadcasting of

Agril. Programmes for transfer of technology through All India Radio and Doordarshan and organising public relation media for communication of agricultural technology and guidance through correspondence.

5. Agricultural Technology Information Centre (ATIC)

The Agricultural Technology Information Centre (ATIC) is a single window delivery, dissemination and supporting system for various innovative and farm worthy techniques evolved at the university and affiliated organizations in the pursuit of research and excellence. This centre started its actual functioning w.e.f. 13th August 2001 with the following objectives

1. To empower farmers through direct access to information and knowledge.
2. To create strong linkage between different research divisions, units and user technology users.
3. To help farmers in problem solving and decision making.
4. To facilitate and dynamic feed forward and feed back mechanism.
5. To bridge the gap between attainable and attained in the crop, livestock development and production.
6. To generate financial resources through sales and services.
7. To disseminate the new technologies developed by the University through organizing Farmers Rallies, Field Visits and Agril. Exhibitions.

The ATIC is supervised by a Manager with four subject matter specialists (SMS) Agronomy, Horticulture, Plant Protection and Animal Husbandry & Dairy and a Public Relation Officer (PRO). The extension activities like field visits, replying the queries of the farmers and other stakeholders and the centre performs diagnostic services in coordination with the other departments of the University. Besides, seed and seedlings, processed products and publications are also sold through ATIC to the end users.

Helpline, Kisan Call Centre, Separate Website and Video Conferencing Unit are operational at this centre for addressing the issues of the farmers.



Major Extension Activities

- The Joint Agresco meet -2013 of four SAUs in Maharashtra was organized at Marathwada Krishi Vidyapeeth, Parbhani during May 30-June 1, 2013. The function was inaugurated by Shri. Prithiviraj Chavan, Hon. Chief Minister of Maharashtra. Shri. Radhakrishna Vikhe Patil Hon. Minister of Agriculture and Marketing M.S was the chief guest. Vice- Chancellors of all SAUs of Maharashtra were present for this meeting. University scientists presented their recommendations. In all MPKV has given 54 recommendations, released 5 varieties & 2 implements. On this occasion various publications viz., booklets, folders, Technology Inventory, 30 years Extension Activities etc. were released by dignitaries.

- A Brain Storming Session on 'Improving Research in Agricultural Extension' was jointly organized by the MPKV, Rahuri and Zonal Project Directorate, Hyderabad on April 26, 2013 at Central Campus, Rahuri. The function was presided over by Dr. T.A. More, Vice Chancellor, MPKV, Rahuri while, Dr. S. A. Patil, Ex-Vice- Chancellor, UAS, Dharwad was the chief guest. Dr. H.G. More, Director of Extension Education, MPKV, Rahuri other experts in the field of extension guided the participants.

- A review meeting of RKVY project entitled 'Transfer of Integrated Crop Management Technologies developed by MPKV, Rahuri' was organized on May 24, 2013. All the PI, Co- PI of the said project attended the meeting and presented the progress made. Dr. H.G. More, Director of Extension Education, MPKV, Rahuri guided the participants. In all 20 scientists from all RECs, DEC and KVKs attended the said training.

- The pre-seasonal kharif meetings were jointly organized by the MPKV, Rahuri and Dept. of Agriculture M.S. in the jurisdiction of MPKV, Rahuri during April – June 2013. The scientists from the Regional and District Extension Centers and Krishi Vigyan Kendras participated and guided the official from line departments.

- The Zonal Research and Extension Advisory Council's meeting was organized at central campus Rahuri during 18th July 2013 for Nashik, Pune and Kolhapur divisions. Shri. Vijayraoji Kolte, Vice-President, MCAER, Pune, Shri. Umakant Dangat, Hon. Commissioner of Agriculture (M.S.) was the chief guests. The function was chaired by Dr. T. A. More,

Vice Chancellor, MPKV, Rahuri. All the Directors from Dept. of Agriculture, Dr. G. K. Sasane, In-charge Officer, Communication Center, MPKV, Rahuri, District SAO, Pune were present for the function. In all 115 participants including SDAOs, TAOs and Programme Co-ordinators from KVKs and Scientists from university attended the meeting.

- The Monthly District Workshops were jointly organized by the MPKV, Rahuri and Dept. of Agriculture M.S. in the jurisdiction of MPKV, Rahuri during July - September 2013. MDWs were organized. at frequent internals. The university scientists guided the officials from the line departments. The field visits were also organized on the demonstration farms.

- The Diagnostic and Surveillance Team visits were organized by scientists from Regional and District Extension Centers and Krishi Vigyan Kendras on farmer's field. These visits were jointly organized in collaboration with the Department of Agriculture (M.S.).

- A review meeting of RKVY project was organized on 06/08/2013. Dr. S. N. Mate, Nodal Officer, RKVY project, Principle Investigator, all CoPIs of this project attended the said meeting.

Activities undertaken through RKVY project

Sl. No.	Name of training	Place and Date	No. of beneficiaries
1	Onion production technology	ATIC, MPKV, Rahuri 30/09/2013	50
2	Onion production technology	ATIC, MPKV, Rahuri 03/10//2013	50
3	Onion production technology	ATIC, MPKV, Rahuri 04/10/2013	50
4	Sugarcane – Potato intercropping technology	Padmashree Dr. Vitthalrao Vikhe Patil Co-operative Sugar Factory, Pravaranagar 09/10/2013	200

- The Zonal Research and Extension Advisory Council's meeting (Rabi and Summer 2013) was organized at ZARS, Solapur on 16th November, 2013 for Nashik, Pune and Kolhapur divisions. The function was chaired by Dr. T.A. More, Vice Chancellor, MPKV, Rahuri. Dr. R.S. Patil, Director of Research MPKV, Rahuri, were present for the function. In all 175 participants including SDAOs, TAOs and Programme



Co-ordinators from KVKs and Scientists from university attended the meeting.

- The training programmes on Integrated Farming Systems, Post harvest management & Value Addition of Fruits and Stress management strategy to enhance production of dairy animals was organized at Central Campus, Rahuri during October- December 2013 in collaboration with Zonal Project Directorate, Hyderabad. Experts from the university gave information on various topics related to the selected training topics. In all 47 participants from various KVKs attended the said training programmes.

- Precision Farming Development Centre, MPKV, Rahuri organized two training programmes on micro-irrigation on 9-10 Oct. 2013 and 11-12 Dec. 2013 at MPKV, Rahuri and Dr. BSKKV, Dapoli. About 65 farmers participated in the said trainings.

- This Precision Farming Development Centre, MPKV, Rahuri centre organized two training programmes on green house technology on 23-24 Oct. 2013 and 27-28 Nov. 2013. In all 67 farmers and officers participated in the training. Training programme on Shadenet house technology, cultivation, maintenance on 24-12-2013 at MPKV, Rahuri. Total 52 members benefited by this training.

Capacity Building of Subject Matter Specialists and staff of Krishi Vigyan Kendras

Sl. No.	Title	Period	No. of Participants	Category
1.	Integrated farming Systems	October 29-31, 2013	17	SMS of KVKs
2.	Post harvest management & Value Addition of Fruits	November 20-22, 2013	14	SMS of KVKs
3.	Stress management strategy to enhance production of dairy animals	December 18-20, 2013	16	SMS of KVKs

Activities undertaken through RKVY project

Sl. No.	Name of training	Place and Date	No. of beneficiaries
1	Onion production technology	ATIC, MPKV, Rahuri 30/09/2013	50
2	Onion production technology	ATIC, MPKV, Rahuri 03/10/2013	50
3	Onion production technology	ATIC, MPKV, Rahuri 04/10/2013	50
4	Sugarcane – Potato intercropping technology	Padmashree Dr. Vitthalrao Vikhe Patil Co-operative Sugar Factory, Pravaranagar 09/10/2013	200

- Retrospection – 2013: A programme on Retrospection – 2013 was organized on 18/2/2014 at Central Campus, Rahuri. Vice-Chancellor Dr. T. A. More presided over the function, while Shri. Rajesh Beldar, Deputy Director, Akashwani Kendra, Ahmednagar was present as chief guest. On this occasion reports regarding extension education, education, research, agril. engineering, lower agril. education, administration, development works and accounts conducted during the year-2013 were presented by Dr. B.R. Ulmek, Director of Extension Education, Dr. R. S. Patil, Director of Research, Dr. P.A. Turbatmath, Associate Dean, Dr. ASCAE, Shri. Sunil Wankhede, Registrar, Shri. Milind Doke, University Engineer and Shri. P.B. Kardile, Comptroller, MPKV, Rahuri respectively. An exhibition with the significant activities of the university related to education, research and various extension activities carried out by College Extension Blocks, Research centers was organized. The university publication Krishi Darshani-2014 was released by the dignitaries. All HODs, Professors, staff, students and members of Farmers-Scientists Forum were present for the programme.

- The XIII Extension Education Council meeting was organized on February 02, 2014 under the Chairmanship of Dr. B. R. Ulmek, Director, Extension Education, MPKV, Rahuri. Dr. P. B. Kharde, Asso. Prof. (Agril. Extn.) presented the report of various extension activities carried out during 2013-14 and proposed



activities for the year 2014-15. Various suggestions were given by members of EEC regarding technology transfer, modern agriculture technology etc. The suggestions of the members were discussed. On this occasion publications were released by the dignitaries. The university scientists from REC, DEC and KVKs were present for the said meeting.

- The 1st Krushi Sahitya Sammelan for Agriculture Students were organized at Central Campus, MPKV, Rahuri on February 20, 2014. The programme was chaired by Vice-Chancellor Dr. T. A. More. Renowned poet Shri. Prakash Holkar was the chief guest. Dr. B. R. Ulmek, Director of Extension Education, MPKV, Rahuri and other dignitaries guided the participants.

- Action Plan Workshop of KVK: Mahatma Phule Krishi Vidyapeeth, Rahuri and Zonal Project Directorate, Hyderabad jointly organized an Action Plan Workshop of KVKs for western Maharashtra during 20-21 March, 2014 at MPKV, Rahuri. The SMSs of KVKs presented the action plan and it was finalized in consultation with university experts. The workshop was inaugurated by Vice-Chancellor Dr. T. A. More. Dr. Rajender Reddy, Senior Scientist, Zonal Project Directorate, Hyderabad was present as the chief guest, Dr. B. R. Ulmek, Director of Extension Education, MPKV, Rahuri and other dignitaries guided the participants. In all 167 Programme Co-ordinators, SMSs and other staff of KVKs participated in the programme.

- A training programme on 'ICT Tools in Agriculture & Website Designing' was organized at Mahatma Phule Krishi Vidyapeeth, Rahuri during 29-31 January, 2014 in collaboration with Zonal Project Directorate, Hyderabad. Experts from university gave information on various topics related to the different ICT tools and methodologies for website development. In all 13 participants from various KVKs attended the said training programme.

- A training programme on 'Improving Crop Production through Micro Irrigation and Fertigation Technology' was organized at Mahatma Phule Krishi Vidyapeeth, Rahuri during 24-26 February, 2014 in collaboration with Zonal Project Directorate, Hyderabad. Experts from university gave information on various topics related to the micro irrigation and fertigation. In all 10 participants from various KVKs attended the said training programme.

- A workshop on 'Farmers, Producers,

Organizations' was organized at Mahatma Phule Krishi Vidyapeeth, Rahuri during 24-26 February, 2014 in collaboration with MANAGE, Hyderabad during 25-26 March, 2014. 64 farmers participated in this workshop. Dr. B. R. Ulmek, Director of Extension Education, MPKV, Rahuri and other dignitaries from MANAGE, Hyderabad guided the participants

- A workshop on 'Participatory Training Management' was organized by Dept. of Extension Education in collaboration with Extension Education Institute, Ananad at Mahatma Phule Krishi Vidyapeeth, Rahuri during February 2014. The training was inaugurated by Vice-Chancellor Dr. T. A. More. Dr. S.B. Shinde Head, Dept. of Extension Education, Dr. C.P. Desai, Course Director, EEI, Ananad and other dignitaries were present for the programme. Lectures on various topics related to participatory training management were arranged for trainees. In all 50 scientists from university participated in the workshop.

- A shivar pheri and farmers rally on 'Seed Production Technology' was organized by Dept. of Agronomy, Rahuri under RKVY project at Kharwandi during February 2014. The function was chaired by Vice-Chancellor Dr. T. A. More while, Dr. B.R. Ulmek, Director of Extension Education, MPKV, Rahuri, Dr. R.S. Patil, Director of Research, MPKV, Rahuri, Dr. M.B. Dhonde, Chief Seed Officer & Principal Investigator of the project attended the said function.

• Human Resource Development Activity

Sl. No.	Title	Period	No. of Participants	Category
1.	ICT tools in Agriculture & Website Designing	Jan. 2014	13	SMS of KVKs
2.	Improving Crop Production through Micro Irrigation and Fertigation Technology	Feb. 2014	10	SMS of KVKs
3.	Workshop on Farmers Producers Organizations	March 2014	64	Farmers
4	Participatory Training Management	Feb 2014	50	Uni. Scientists



Directorate of Extension Education
Major Extension Activities carried out during 2013-2014

Sl. No.	Activity	No. of activities carried out	No. of Beneficiaries
1.	Training Programmes organized		
i.	For farmers, farm women and youth	153	7012
ii.	For staff of development department	15	1054
iii.	Interaction training programme between farmers and scientists	21	1474
2.	Workshop and seminars attended		
i.	Monthly district workshops	58	1366
ii.	Zonal workshops (ZREAC) <i>Rabi</i>	02	275
iii.	Seminar/workshop attended by Univ. Scientists	21	1312
3.	Demonstrations and farm trials		
i.	Method demonstrations	370	4547
ii.	Result demonstrations	403	403
iii.	Front line demonstrations	1471	1471
4.	Other extension education programmes		
i.	Meeting and group discussion	267	3190
ii.	Field visit/shivar pheries	374	374
iii.	Field days	14	
iv.	Farm and home visit	568	568
v.	Farmers rallies	96	--
vi.	Agril. Exhibition	39	--
vii.	Diagnostic and Surveillance team visit	167	--
viii.	Lecture by univ. scientists in diff. Extn. Programme organized by Agril. Dept. NGOs.	354	--
ix.	No. of farmers queries replies	2761	--
x.	Training classes attended and participated by Univ. scientists	354	--
xi.	Visit to <i>Kharif</i> and <i>Rabi</i> trials/adaptive trials demonstrations etc. by Univ. scientists.	375	--
xii.	Farmers- Scientist Forum meetings	52	630



5.	Publicity and publications			
	a) Publicity			
	i. News items: Newspaper / Radio/ TV	1446	--	
	ii. Articles in newspapers/magazines	415	--	
	iii. Radio programmes	117	--	
	iv. Doordarshan programme	55	--	
	v. Other TV programmes	45	--	
	b) Publication sale			
	i. Krishidarshani - 2013	18000	18000	
	ii. Shri Sugi (<i>Kharif, Rabi & Summer</i>)	9970	9970	
	c) Farm publications			
	i. Folders	10000		
	ii. Other literature	157		
	d) No. of persons visited to Central Campus Rahuri and other campuses of University	CC, Rahuri	Other Centers	
	i. Farmers	16574	11770	
	ii. Students	4372	3178	
	iii. Trainees	560	374	
	iv. Officers	276	198	
	e) No. of VIP visits	36	24	
6.	Mobile Van Programme			
	i. No. of questions solved	2784	2784	
	ii. No. of water samples tested	564	564	
	iii. No. of soil samples tested	1164	1164	
	iv. No. of pests samples tested	476	476	
	v. No. of diseases samples tested	575	575	
7.	Help line/Telephone Calls attended		15276	15276



5. Major Events

National Conference Organized



National Conference of Vice Chancellors of Agricultural Universities, Directors of ICAR and Progressive farmers was inaugurated at the hands of His Excellency President Shri. Pranab Mukharji at Baramati, Maharashtra. His Excellency President Shri. Pranab Mukharji said in his key note address that agriculture is facing the shortage of skilled labor. Therefore, farm mechanizations is the need of the hour. Alongwith that quality seeds and fertilizer use should be increased and universities and Research Insitiutes should make efforts for that. Shri. Prithviraj Chavan, Chief Minister, Maharashtra was president of the conference. On this occasion, Shri. Sharad Pawar, Cabinet Agriculture Minister, and Shri. Ajitdada Pawar, Deputy Chief Minister, were present on the stage. Vice Chancellors of all the universities, Directors and scientists were present in huge number.

29th Convocation Ceremony organized



29th Convocaton ceremony of this university was organized. Shri Radhakrushna Vikhe Patil, Minister for Agriculture and Marketing and Pro Chancellor was the president of the ceremony. Dr. Yogindar Alagh,

Vice Chancellor of Central University of Gujarat was Chief Guest. On this occasion His Excellency Dr. D. Y Patil, Governor of Bihar. Shri. Balasaheb Vikhe Patil, Ex. Cabinet Minister, Dr. T. A. More, Vice Chancellor, MPKV, Rahuri, Dr. B. R. Ulmek, Dean, F/ A, Dr. P. A. Turbatmath, Associate Dean, Dr. ASCAE, Er. Sunil Wankhede, Registrar were present on the stage. In his convocation address Dr. Yogindar Alagh said that in coming future need of food grains especially pulses will increase and to cope with that a public private partnership is required.

Dr. T. A. More, Vice Chancellor presented a report of Agricultural Education, Research and Extension. Shri. Radhakrishna Vikhe Patil, Minister for Agriculture and Marketing and Pro Chancellor awarded the Degrees. 31 Ph. D students and 261 under graduate and total 1854 degrees were awarded. Topper students were given medals at the hands of Shri. Radhakrishna Vikhe Patil. 'Doctor of Science' honorary degrees were conferred on His Excellency Dr. D. Y Patil, Governor of Bihar and Shri. Balasaheb Vikhe Patil, Ex. Cabinet Minister, for their remarkable contribution in the field of cooperatives and education. On this occasion Sau. Sindhutai Vikhe, Sau. Shalinitai Vikhe, Members of Executive Council, Shri. Umakand Dangat, Agril. Commissioner, Dr. Kisanrao Lawande, Vice Chancellor, Dr. BSKKV, Dapoli, Dr. Raviprakash Dani, Vice Chancellor, Dr. PDKV, Akola, Directors of this university, Heads of Departments, Scientists, farmers and students were present in huge number.

Inaugural function of College of Agriculture, Karad



Ground breaking ceremony (Bhumipujan) of College of Agriculture, Karad at Mundhe Vijay Nagar,



Karad was done at the hands of Shri. Prithviraj Chavan, Chief Minister, Maharashtra. Shri. Radhakrishna Vikhe Patil, Minister for Agriculture and Marketing presided over the function. In his address Shri. Prithviraj Chavan, Chief Minister, said that Agriculture Economics should be developed by adopting technology. Progress of farmers implies progress of the state. Constituent Government Colleges will be established in those districts where no government colleges. Dr. T. A. More, Vice Chancellor, MPKV, Rahuri, did the introduction and welcome address. On this occasion, Shri. Balasaheb Thorat, Minister for Revenue, Dr. Patangaro Kadam, Minister for Forest, Shri. Satej Patil, MLA, Shri. Jaykumar Gove, MLA, Dr. Ramaswami, Collector and officers of this university were present for the inaugural function.

Birth Anniversary of Dr. Babasaheb Ambedkar



122nd Birth Anniversary of Bharatratna Dr. Babasaheb Ambedkar was celebrated in the university. Adv. Sanghraj Rupwate was the chief guest for the programme. Dr. H. G. More, Director of Extension Education presided over the function. In his key note address Adv. Sanghraj Rupwate said that Bharatratna Dr. Babasaheb Ambedkar saw the dream of equality but the reality is quite different. He gave the constitution of India which can change financial and social status. In presidential address, Dr. H. G. More, Director of Extension Education said that Mahatma Jyotiba Phule, Dr. Babasaheb Ambedkar devoted their lives for society. They fought for equality. On this occasion Dr. S. G. Borkar, Associate Dean, PGI, Dr. D. B. Yadav, Head, Dept. of Economics, Dr. Shrimant Ranpise, Head, Dept. of Horticulture, Prof. S. V. Patil, SWO, Professors and Scientists and students were present for the programme.

MoU between MPKV, Rahuri and Sudan University



MoU was signed between MPKV, Rahuri and Al Zaim Al Azari University, Khartoom, North Sudan for Agricultural Education, Research and Extension. Dr. T. A. More, Vice Chancellor, MPKV, Rahuri, and Dr. Mohammad Said Ala Khalifa, Vice Chancellor, Sudan Agricultural University signed the MoU. With this MoU it will be an opportunity to both the universities for helping each other in education, research and extension. On this occasion Dr. Mohammad Said Ala Khalifa, Vice Chancellor, Al Zaim Al Azari University said that MPKV, Rahuri is known the best university in India. On this occasion Dr. B. R. Ulmek, Dean, F/A presented a brief report on education, Research and Extension. Dr. Tajeldin, Dean, Sudan University, Dr. H. G. More, Director of Extension Education, Dr. R. S. Patil, Director of Research, Dr. S. G. Borkar, Associate Dean, PGI, Er. Sunil Wankhede, Registrar and scientists were present for the programme.

Visit of Shri. J. P. Dange, President, State Finance Commission to the University



A meeting of Review of Finance was organized under the Chairmanship of Dr. T. A. More, Vice Chancellor, MPKV, Rahuri. Shri. J. P. Dange, President,

State Finance Commission was present for the meeting. In his address Shri. J. P. Dange, President, State Finance Commission said that MPKV, Rahuri has the vast jurisdiction of Ten Districts. The bigger the jurisdiction the more the work university does.

Dr. T. A. More, Vice Chancellor said that this university does research on more than 50 crops, more than 200 crop varieties released and more than 1100 technological recommendation given for farmers. Dr. H. G. More, Director of Extension Education, Dr. R. S. Patil, Director of Research, Dr. S. G. Borkar, Associate Dean, PGI, Er. Sunil Wankhede, Registrar, Shri. P. B. Kardile, Comptroller, Associate Deans and Heads of Departments were present for the meeting.

Dr. T. A. More, Vice Chancellor, MPKV, Rahuri on tour for an International MoU

An International Animal Husbandry Course is being started for the first time in India. Hence, Dr. T. A. More, Vice Chancellor, MPKV, Rahuri proceeded on tour to sign MoU between MPKV, Rahuri and Van Hall Larenstine University, Netherland

B. Sc (Animal Husbandry) this International Degree (2+2) course will be started from the academic year 2013-14. This course will be started for the first time India under MPKV, Rahuri at College of Agriculture, Baramati. In this course students will complete their first and second year of degree at College of Agriculture, Baramati and third and fourth year at Van Hall Larenstine University, Netherland.

Annual Prize Distribution Ceremony



Prize Distribution Ceremony of Post Graduate Institute, Rahuri was organized. On this occasion Prof. F. M. Shinde, renowned poet and writer was present as chief guest. Dr. T. A. More, Vice Chancellor

presided over the function. Prof. F.M. Shinde said in his address that everywhere one culture is same and that is agriculture. In the presidential address Dr. T. A. More, Vice Chancellor said that only agriculture can save us. Therefore, students studying in agriculture should be proud of that. Dr. S. G. Borkar, Associate Dean did the introduction of the programme. Dr. B. R. Ulmek, Dean, F/A, Dr. P. A. Turbatmath, Associate Dean, Dr. ASCAE, Rahuri, Dr. Rajiv Naik, Vice President Student Council, Er. Sunil Wankhede, Registrar, Prof. S. V. Patil, SWO, Miss. Priya Chaudhary, Chairman, Student Council were present on the stage. The students getting first, and second prizes in badminton, kho-kho, kabaddi, cricket etc. were given the prizes at the hands of guests. A poetry collection named ' Swara' of a student was unveiled at the hands of guests. All the students and faculty members were present for the prize distribution ceremony.

Inauguration of various construction works at College of Agriculture, Kolhapur



Vice Chancellor Dr. T. A. More inaugurated various construction works at College of Agriculture, Kolhapur. On this occasion Dr. R. S. Patil, Director of Research, Dr. S. G. Borkar, Dean, F/A, Dr. N. Y. Patil, Associate Dean were present on the stage. Video Conferencing Unit at Department of Extension Education was also inaugurated. On this occasion Dr. S. M. More, Associate Director of Research, Shenda Park, Dr. R. R. Suryawanshi, Dr. B. T. Kolagane, Prof. D. K. Kamble and professors were present.

Intellectual Churning of Extension organized

A one day seminar on improvement in Research in Agricultural Extension and Directions was jointly organized by Directorate of Extension Education, MPKV,





Rahuri and Directorate of Zonal Project, 5- Department, Hyderabad. Dr. T. A. More, Vice Chancellor presided over the function. On this occasion Dr. S. A. Patil, Ex Vice Chancellor of Dharwad University and Member, Executive Council, MPKV, Rahuri, Dr. H. G. More, Director of Extension Education, Dr. J. P. S. Dabas, Principal Scientist, ICAR, New Delhi, Dr. S. B. Shinde, Head, Dept. of Extension Education, Dr. G. K. Sasane, I/c, Communication Centre were present on the stage. Dr. T. A. More, Vice Chancellor and Dr. S. A. Patil, Ex Vice Chancellor of Dharwad University addressed the participants. This seminar was organized at different 23 locations in India under the guidance of ICAR, New Delhi. All the scientists and professors were present for the programme.

Training Programme for Agriculture Officers organized

A training programme on the subject of 'Ratoon Sugarcane Management' was organized under technology dissemination of RKVY. The programme was inaugurated at the hands of Dr. H. G. More, Director of Extension Education. In his presidential address Dr. H. G. More said that Agriculture is facing labor shortage; hence, farm mechanization should be adopted in sugarcane cultivation. He gave the information of various implements and machineries required for sugar cane planting to harvesting. On this occasion Shri. Namdev Pokade, Taluka Agriculture Officer, Dr. Anand Solanki, Project Coordinator, RKVY, Dr. P. B. Kharde, Co-Cordinator, Dr. Anil Durgude, Prof. Dharmendra Falke and Prof Manjabapu Gawade, experts were present. More than 50 Agriculture Officers of Department of Agriculture were present for

the training programme.

Visit of Members of Farmers-Scientist Forum to the University

A study tour of 21 members of Farmers-Scientist Forum established at Krushi Vidnyan Kendra, Nifad was organized. The members were from Varhedorna and Lalpadi area. This study tour was organized during 25-28 Feb. During the study tour farmers visited onion and Garlic Research Station, Rajgurunagar, Sugarcane Research Station, Padegaon, Dist. Satara, Sugar and Jaggary Research Station at Kolhapur, and Water Management Project, Goat Project, Nursery at central campus, MPKV, Rahuri. Shri. Sanjay Gamane, Sarpanch of Varhedarna and Shri Balasaheb Sanap, Sarpanch of Lalpadi and other farmers were present during the visit.

Meeting of Group-2, Agro Climatic Zone wise organized



A primary meeting of Group-2, Agro Climatic Zone wise was jointly organized by MPKV, Rahuri and Department of Agriculture, Government of Maharashtra. Dr. T. A. More, Vice Chancellor presided over the meeting. On this occasion Dr. Budhajirao Mulik, Member, MCAER, Pune, Dr. S. S. Adsul, Director, Quality Control, Government of Maharashtra, Dr. H. G. More, Director of Extension Education, Dr. R. S. Patil, Director of Research, Zonal Agriculture Co-Directors from Pune, Kolhapur, Nasik and Aurangabad were present for the meeting. Dr. Budhajirao Mulik said in his address that scientists and employees of Agriculture should use Information Communication Technology to its maximum effect in this technology age.



7 new varieties, 3 implements and 68 Agricultural Technology Recommendations of this university approved

A 3 days 41st Joint Agresco was jointly organized by MCAER, Pune and all the four State Agriculture Universities at Marathwada Agriculture University, Parbhani. Shri. Prithviraj Chavan, Chief Minister inaugurated the meeting. Shri. R. V. Patil presided over the function. On this occasion Shri. Vijayraoji Kolte, Vice President, MCAER, Pune Shri. JayantKumar Banthia, Chief Secretary, Dr. Sudhir Kumar Goyal, Prime Secretary, Dr. T. A. More, Vice Chancellor, MPKV, Rahuri, Dr. Kisanrao Gore, Vice Chancellor, MKV, Parbhani, Dr. Kisanrao Lawande, Vice Chancellor, Dr. BSKKV, Dapoli, Dr. Raviprakash Dani, Vice Chancellor, Dr. PDKV, Akola and Shri. M. H. Sawant Director General, MCAER, Pune were present. Dr. R. S. Patil, Director of Research presented the crop varieties and new technology recommendations under the guidance of Dr. T. A. More, Vice Chancellor. This year 4 crop varieties, 2 fodder crops, 1 fruit variety, 3 farm implements and 68 Agriculture technology recommendations were approved by the committee.

Mega Bull Station in the University

With persistant efforts of Shri. Sharadraoji Pawar, Cabinet Agriculture Minister and Shri. Radhakrushna Vikhe Patil, Minister for Agriculture and Marketing a Mega Bull Station of National Dairy Development Board has been approved at MPKV, Rahuri. This bull station will help to provide high class frozen semen to increase milk production in Maharashtra. A meeting was organized under the chairmanship of Dr. T. A. More, Vice Chancellor to finalize the land area for mega bull station. Dr. C. P. Devchand, Chief, PES, Dr. A Roy Berman, Dr. Anil Hatekar, Dr. R. S. Patil, Director of Research, Dr. B. R. Ulmek, Dean, F/A, Er. Sunil Wankhede, Registrar and Heads of Department were present.

Inauguration of Various construction works under RKVY

MPKV, Rahuri was provided with 3.15 crores rupees under RKVY for the year 2011-12 and 2012-13. The following construction works were inaugurated at the hands of Dr. T. A. More, Vice Chancellor, from the available grand. The construction works: Irrigation



facilities, Internal pipelines, Farm ponds, Consturion of 3 wells, 2 seed storages etc. On this occasion Dr. R. S. Patil, Director of Research, Dr. B. R. Ulmek, Dean, F/A, Er. Sunil Wankhede, Registrar, Shri. P. B. Kardile, Comptroller, Prof. Milind Dokhe, University Engineer, Dr. D. B. Yadav, Associate Dean (LAE), Dr. P. A. Turbatmath, Assoicate Dean, Dr. ASCAE, Rahuri and Heads of Department were present. Dr. Madhukar Dhonde, Chief Seed Officer gave the information of Seed production programme on 302 hector and facilities to be created in future to Dr. T. A. More, Vice Chancellor.

4th Annual Review Meeting of HOPE project



A 4th meeting of Annual Review HOPE project was organized in Yashwantrao Chavan Development Administration at Pune. Dr. T. A. More, Hon' Vice Chancellor presided over the meeting. Dr. George Oakwatch, Manager HOPE Project, Dr. Sphinia Grando, Director, Dr. Ajit Chandeale, Associate Dean were present on the stage. In his presidential address Dr. T. A. More, Hon' Vice Chancellor said that because of HOPE project (panchsutri) fivefold technology to increase rabbi jowar production reached to farmers successfully. The rabbi jowar producing farmers have been benefited from this project. Dr. George Oakwatch



also expressed his thought. Heads of Department and Scientists were present for the meeting.

Annual Review Meeting Conducted



Two Days 13th State Level All India Coordinated Goat Improvement Project annual review meeting was jointly organized by MPKV, Rahuri and ICAR, New Delhi. Meeting was conducted in the university. Dr. T. A. More, Vice Chancellor presided over the meeting. Dr. K. M. L. Pathak, Deputy Director General, ICAR, New Delhi was the chief guest. On this occasion Dr. R. S. Patil, Director of Research, Dr. B. R. Ulmek, Dean, F/A, Dr. S. G. Borkar, Associate Dean, PGI, Dr. D. B. Yadav, Associate Dean (LAE), Dr. Vinit Bhasin, Principal Scientist, ICAR, New Delhi, Dr. Yashwant Fulpagare, Head Dept. of ASDS were present. In his presidential address Dr. T. A. More, Vice Chancellor said that goat has the capacity to digest any kind of plant. It can live in adverse conditions and can be more productive. Sangamneri breed of goats is highly productive and its number has been increased from 2 thousand to 11 thousand through the efforts of this university. Dr. K. M. L. Pathak, Deputy Director General, ICAR, New Delhi said in his address that the work of conserving the breed of Sangamneri goat is a remarkable and appreciable. This university needs to increase trainings in the related fields. Dr. B. R. Ulmek, Dean, F/A did the introduction. Dr. R. S. Patil Director of Research also guided the members. Head of Departments, Scientists, Professors and workers were present for the meeting.

Model Training Programme Organized

An eight days training programme on 'Recent Advances in Seed Production and quality Regulation'



under seed technology research scheme. The training programme was jointly organized by this university, Directorate of Extension Education and Ministry for Agriculture, New Delhi. Dr. R. S. Patil Director of Research inaugurated the training programme. On this occasion Dr. D. B. Yadav, Associate Dean (LAE), Dr. Raosaheb Bharud, Head, Dept. of Agriculture Botany, Dr. Vithal Shende, ADR, Dr. Subhashchandra Shinde, Head, Dept. of Extension Education, Dr. Madhukar Dhonde, Chief Seed Officer were present on stage. Dr. R. S. Patil Director of Research said in his presidential address that university developed various crop varieties based on soil type. All such varieties if used by all the farmers then definitely production of the state will increase. Dr. Raosaheb Bharud, Head, Dept. of Botany did the introduction. Around 20 officers of Dept. of Agriculture, Govt. of Maharashtra, Agriculture officers from District Council and Extension officers participated in the training.

MoU Signed



MoU regarding plants A biotic Stress Management Education and Research was signed between MPKV, Rahuri and National A Biotic Stress Management Organization, Baramati. On this occasion Dr. T. A.

More, Vice Chancellor, Dr. P. S. Minhas, Director, NASM, Dr. R. S. Patil, Director of Research, Dr. B. R. Ulmek, Dean, F/A were present on the stage. Dr. R. S. Patil, Director of Research and Dr. P. S. Minhas, Director, NASM signed on MoU document. In his presidential address Dr. T. A. More, Vice Chancellor said that due to climate change plants are facing a biotic stress. This MoU will open new horizons for a biotic stress management. Dr. P. S. Minhas also expressed his thoughts. Dr. R. S. Patil, Director of Research did the introduction. Dr. Jagdish Rahane, Dr. K. K. Krishnan from A biotic Stress Management, Dr. P. A. Turbatmath, Assoicate Dean, Dr. ASCAE, Rahuri, and Heads of Departments were present for the programme.

Annual Research Review Meeting of Dry land Fruit Crops conducted



18th Annual Research Review Meeting of National Level Scientist regarding Dry land Fruit Crops Research was jointly organized by MPKV, Rahuri and Central Dry land Fruit Crops Research Centre, Bikaner, ICAR, New Delhi. Dr. T. A. More, Vice Chancellor presided over the meeting. Dr. N. K. Krushnakumar, Deputy Director, Dept. of Horticulture, ICAR, New Delhi was the Chief Guest. On this occasion Dr. R. S. Patil, Director of Research, Dr. B. R. Ulmek, Dean, F/A, Dr. S. K. Sharma, Project Chief of Central Dry land Horticulture Organization, Dr. S. Ranapise, Head, Dept. of Horticulture were present for the meeting. In his presidential address Dr. T. A. More, Vice Chancellor said that to increase growth rate of agriculture up to 4 percent the growth rate of Horticulture and Milk production needs to be increased up to 6 percent. Dr. Krushnakumar said in his key note address that Maharashtra has immensely contributed in all fields. Maharashtra is leading in Agriculture, cooperatives,

business and in industrialization. Dr. S. K. Sharma also expressed his thoughts. On this occasion Dr. R. S. Patil, Director of Research did the introduction. Dr. P. S. Minhas, Director, NASM, Dr. Paul, Dr. M. N. Roy, Associate Deans, Heads of Departments and 70 scientists from all over India were present for the meeting.

Zonal Agricultural Research Centre and Extension Advisory Meeting



A meeting of Zonal Agricultural Research Centre and Extension Advisory of this university was organized at Solapur. Dr. T. A. More, Vice Chancellor presided over the meeting. In his presidential address Dr. T. A. More, Vice Chancellor said that the university has taken lead in seed production of jowar, Wheat and cheak pea. Therefore, in future shortage of these varieties could not be felt. On this occasion Dr. R. S. Patil, Director of Research, Dr. Kailas Mote, Joint Director, Agriculture, Dr. R. K. Pal, National Pomegranate Research Centre, Dr. Janardhan Kadam, Principal Scientist, Dr. V. Shende, ADR were present on the Stage. Dr. R. S. Patil, Director of Research presented the information of recommendations of the university.

64th Republic Day Celebrated

64th Republic Day was Celebrated happily in the university. Flag was hosted at the hands of Dr. T. A. More, Vice Chancellor said that in last year two new government agriculture colleges have been established and this year agriculture college at Sangli, Jalgaon, Rahuri and Pune have been planned. Students from other countries are coming to this university for education. There is a lot of vacancy in the university





in spite of these scientists and employees are working hard to make the work of this university remarkable.

Shri. J. B. Shinde compared the programme. Prof. R. N. Kenghe and NCC cadets gave the guard of honor. On this occasion Dr. R. S. Patil, Director of Research, Dr. B. R. Ulmek, Dean, F/A, Er. Sunil Wankhede, Registrar, Shri. P. B. Kardile, Comptroller, Prof. Milind Dokhe, University Engineer, Dr. D. B. Yadav, Associate Dean (LAE), Dr. P. A. Turbatmath, Associate Dean, Dr. ASCAE, Rahuri and Heads of Department and students were present. A blood donation camp was jointly organized by PGI, Rahuri, Dr. ASCAE, Rahuri and Civil Hospital, Ahmednagar.

MoU Signed



MoU regarding establishment of laboratory for production of frozen semen was signed between MPKV, Rahuri and National Dairy Development Board, New Delhi. On this occasion Dr. T. A. More, Vice Chancellor, Dr. M. H. Butch, Manager, NDDDB, Mumbai, Dr. B. R. Ulmek, Director of Extension Education, Dr. Hatekar, Senior Manager, Dr. V. N. Vanjare, Secretary Dept. of Dairy and Fisheries, Govt. of Maharashtra were present on the stage. Dr. T. A. More, Vice Chancellor and C. P. Devchand, Head, Dept. of Dairy Science, NDDDB signed the MoU documents. Dr. B. R. Ulmek, Director of Extension Education did the introduction. On this

occasion Shri. P. B. Kardile, Comptroller, Dr. Sharad Mate, Planning Officer, Professors and scientists were present.

13th Meeting of Extension Education Council Conducted



13th Meeting of Extension Education council was conducted in the university. Dr. B. R. Ulmek, Director of Extension Education presided over the meeting. Dr. R. S. Patil, Director of Research, Dr. P. A. Turbatmath, Associate Dean, Dr. ASCAE, Rahuri, Dr. Vishwasrao Patil, Member, Extension Council, Shri. Pandurang Patil, Progressive Farmer, Dr. S. B. Shinde, Head, Dept. of Extn. Education were present on the stage. Dr. B. R. Ulmek, Dr. Vishwasrao Patil, Shri. Pandurang Patil, expressed their thoughts. Dr. P. B. Kharde presented the report of Directorate of Extension Education. Dr. S. V. Shirke presented the report of College of Agriculture, Pune, Dr. Milind Ahire presented the report of College of Agriculture, Dhule and Dr. M. M. Tale presented the report of college of Agriculture, Kolhapur. All the heads, Associate Director of Research, Managers of Zonal Extension Centers, and Officers of District Extension Centers, Officers of KVK's, Progressive farmers and scientists were present for the meeting.

State Level Workshop on Floriculture Technology organized



A two days workshop on 'Precision Farming Technologies for Floriculture in Control Conditions'

was organized in the university. Shri. Krish Ayyangar, Joint Secretary, NCPAH, New Delhi, was the chief guest and Dr. T. A. More, Vice Chancellor presided over the function. On this occasion Dr. T. Jankiram, Head, Dept. of Horticulture, ICAR, New Delhi, Dr. P. A. Turbatmath, Associate Dean, Dr. ASCAE, Rahuri, Dr. S. N. Mate, Planning Officer, Dr. S. D. Gorantiwar, Head, Dept. of IDE, Prof. N. N. Firke, Principal Investigator, PFDC were present of the stage. In his key note address Dr. Krish Ayyangar said that farmers should adopt the floriculture technology for cultivation as it will reduce expenditure, less water and land will required. Dr. T. A. More, Vice Chancellor also guided the farmers. A memorabilia and literature on floriculture were published / unveiled on this occasion. Total 250 farmers and agriculture officers participated in the workshop.

Retrospection-2013 (Magova)



A retrospection-2013 and exhibition of photographs were organized in the university. Dr. T. A. More, Vice Chancellor presided over the function. Shri. Rajesh Beldar, Deputy Director, Akashwani Centre, Ahmednagar was present as chief guest. On this occasion Dr. B. R. Ulmek, Director of Extension Education, Dr. R. S. Patil, Director of Research, Dr. S. G. Borkar, Associate Dean, PGI, Er. Sunil Wankhede, Registrar, Shri. P. B. Kardile, Comptroller, Associate Deans and Heads of Departments were present for the meeting. Dr. T. A. More, Vice Chancellor in his presidential address that Research Station, Agril.

Colleges and Agril. Technical Schools and KVK's are guiding centers for farmers. They work as a system of extension and they needs to be strengthened. Shril Rajesh Beldar, chief guest said in his address that MPKV, Rahuri has given a huge contribution in the field of Education, Research and Extension. On this occasion scientist from ten districts were present. Dr. B. R. Ulmek, Director of xtension Education, Dr. R. S. Patil, Director of Research, Er. Sunil Wankhede, Registrar, Shri. P. B. Kardile, Comptroller, Prof. Milind Dokhe, University Engineer presented last year reports of their respective departments.

State Level Seminar on Spices crops, Medicinal and Aromatic Plants



A two days state level seminar on Spices crops, Medicinal and Aromatic Plants was jointly organized by Medicinal and Aromatic Plants Project, MPKV, Rahuri and Argonaut and Spices Crops, Medicinal and Aromatic Centre, Kalikat (Kerala) Dr. Bolore, President, Medicinal Board, Advisory Midicinal Plants, Pune was present as chief guest. Dr. Raosaheb Bharud, Head Dept. of Botany presided over the seminar. Shri. Dilip Devare, ADR, Dr. Vithal Shende, ADR, Dr. Sharad Gadakh, Sorghum Breeder, Dr. Madhukar Bedis were present. Dr. Bolore, Chief Guest presented the information of 13 government approved plants and sponsored medicinal and aromatic plants. Dr. Raosaheb Bharud also addressed the participants.

6. Awards / Distinctions / Recognitions

Dr. T. A. More, Vice Chancellor honoured with 'Krushiratna Award'



Dr. T. A. More, Vice Chancellor has been honored with 'Krushiratna Award' for the year 2014 given by Marathi Reporters Union, Maharashtra State. 5th State Level Convention of Reporters Union, Maharashtra State was organized at Titwala, Kalyan. The eminent personalities who have done remarkable work are honored with this award.

Dr. T. A. More, Vice Chancellor awarded with National Education Award of Lokmat Group

Dr. T. A. More, Vice Chancellor honoured with National Education Award for the year 2014 given by Lokmat Group. Dainik Lokmat Group and Stars of the Industry Group gives this award every year to the person who has done remarkable work in the field of education.

'Best Literature Creation in Marathi -2012' award to Dr. U. D. Chavan and Dr. J. V. Patil

Best Literature Creation in Marathi - 2012' state Government award ceremony was organized at Ravindra Naty Mandir, Mumbai. Shri. Prithviraj Chavan, Chief Minister was chief guest for the ceremony. 'Best Literature Creation in Marathi -2012' this award of Literature and Cultural Board, Government of Maharashtra was given to to Dr. U. D. Chavan, Sorghum Improvement Project for his book on 'Prudh Sheti wa Sheti Purak Vyavsai' (Mature Farming and farming related business) and Dr. J. V. Patil, Director, Jowar Directorate, Hyderabad for his book on ' Kaddhannya Lagwad te Prakriya Udyog'(Pulses Planting to Process Industry) in sharing. The form of award was cash RS. 100000/-, memento and certificates.

Scientists Selected for Europe tour



Dr. Anand Solanke, Professor, Dept. of Agronomy and Dr. P. B. Kharde, Associate Professor, Dept. of Extn. Education have been



selected for Europe study tour. Dr. Solanke and Dr. Kharde represented the University in two different tours. 'Farmer Foreign Study Tour' is an initiative of Government of Maharashtra. During the tour they visited Germany, Netherland, France and Spain.

Dr. Jaywant Jadhav Received Award

Dr. Jaywant Jadhav, Meteorologist, working at Zonal Research Station, Solapur was awarded Dr. Radha Krushnan Gold Medal Award by Global Economic Progress and Research Association for his remarkable work in atmosphere awareness. The award was given in the 14th National Seminar on 'Education and Contribution to National upliftment'

Dr. Vishnu Garande received 'Ideal Teacher Award-2012'



An 'Ideal Teacher Award-2012' given by Lions Club of Kolhapur West and Reading Center Karvirnagar was awarded to Dr. Vishnu Kundlik Garande, Principal, Shahu Agril. Technical School.

Dr. Pandit Kharde awarded with National Award



Dr. Pandit Kharde, Associate Professor, Dept. of Extension Education was awarded with Young Extension Businessman Award during an International Conference orgnaised at Bengluru.

The award was given for his remarkable work in the field of Education, Research and Extension. The award was given at the hands of Dr. S. Ayyapan, DG, ICAR, New Delhi and Dr. Arvind Sawant, President, International Society of Extension Education. The form of the award was memento, Certificate and Rs. 5000/- in cash.



7. Human Resource

7.1 Executive Officer

Executive Officer		
1	The Chancellor	Hon'ble Shri K. Sankaranarayanan
2	The Pro-Chancellor	Hon'ble Shri Radhakrishna Vikhe Patil
3	The Vice-Chancellor	Dr. T. A. More

7.2 Executive Council Members

Sl. No.	Category	Hon. Member	Address	Period
1	Chairman	Hon. Vice-Chancellor	Mahatma Phule Krishi Vidyapeeth, Rahuri	--
2	Member	Hon. Director of Agriculture	Commissionerate of Agril., Central Building, Pune-411001	--
3	Member	Hon. Regional Joint Director of Animal Husbandry	Veterinary Dispensary, Near Ashok Stambha, Nasik	--
4	Member	Hon. Director of Horticulture	Near Superintendent of Agril officer of Maharashtra State office, Narvir Tanaji Road, Shivajinagar, Pune-5	--
5	Member	Hon. Chief Conservator of Forest (Regional)	Old Mumbai-Agra Highway, Tryambak Naka, Opp. To Adivasi Vikas Bhavan, Nasik-422002	--
6	Member	Hon. Director of Research	Mahatma Phule Krishi Vidyapeeth, Rahuri	--
7	Member	Hon. Dean	Dr.A.S.C.A.E., MPKV, Rahuri	--
8	Member (Agricultural Scientist)	Hon. Dr. S. A. Patil	Chairman, Karnataka Agriculture Mission, Campus of Commissionerate of Agril., 1, Sheshadri Road, Bangalore	28 April, 2010 to 27 April, 2013
		Hon. Dr.S.B.Dandin	H.No.449, Nisarga, Ramtirthanagar, Belgaum-590016	22 May, 2013 to 21 May, 2016
9	Member (Progressive Farmers 05)	Hon. Shri Tanaji Ramchandra Dhasal	At.Po.Tandulwadi, Tal-Rahuri, Dist-Ahmednagar	29 Feb., 2012 to 28 Feb., 2015
10		Vacant Post	--	--
11		Vacant Post	--	--
12		Vacant Post	--	--
13		Vacant Post	--	--
14	Member (ICAR Nominate)	Hon. Dr. P.G.Adsule	Director, National Research Station on Grapes, Solapur Road, Pune	28 Oct., 2011 to 31 Dec., 2013
		Hon.Dr. S. D. Sawant	Director, National Research Station on Grapes, Solapur Road, Pune	01 Jan., 2014 to 31 Dec., 2016



15	Agro Industrialist	Vacant Post	--	--
16	Member (Member Maharashtra Legislative Assembly-03)	Hon. Krishibhushan Shri. Sahebrao Patil	Rajbhavan Tahsil Office, Dhule Road, Ammalner, Dist-Jalgaon	24 Nov., 2010 to up to Member of Maharashtra Legislative Assembly
17		Hon. Prof. Sharad Patil	Raktashray, Subhashnagar, Dhule-424001	24 Nov., 2010 to up to up to Member of Maharashtra Legislative Assembly
18		Hon. Shri. Anil Gote	S.S.1321, Galli No.04, Kholi Galli, Dhule	19 May, 2011 to up to Member of Maharashtra Legislative Assembly
19	Member (Member Maharashtra Legislative Council-02)	Hon. Shri. Ram Jankiram Padangale	Oberoy Park View, Wing B, 22nd Floor, Flat No. 2206, Thakur Village, Kandivali B,(East), Mumbai-400101	24 March, 2009 to 10 March, 2014
20		Hon. Shri. Shudhir Bhaksar Tambe	Galli No.01, Indirangar, Tal-Sangamner	14 Dec., 2010 to 5 Dec., 2016
21	Member (Chairman of Agril. Committee of ZP)	Vacant Post	--	--
22		Vacant Post	--	--
23	Member Secretary	Hon. Registrar	Mahatma Phule Krishi Vidyapeeth, Rahuri	--
24	Member	Regional Dairy Development Officer,	Nasik Division, Campus of Govt. Dairy Scheme, Tryambak Raod, Nasik-422002	--
25	Member	Regional Dy. Director of Fisheries, Nasik	Old Govt. Ashwin Barrel No.13, Near Divisional Commisior Office, Nasik Road-1, Nasik	--
26	Invitee	Hon. Comptroller	Mahatma Phule Krishi Vidyapeeth, Rahuri	--



7.3 Academic Council Members

Sl. No.	Category	Hon. Members	Address
1	Ex-officio Chairman	Vice Chancellor	Mahatma Phule Krishi Vidyapeeth, Rahuri
2	Member	Hon. Director of Extension Education	Mahatma Phule Krishi Vidyapeeth, Rahuri
3	Member	Hon. Director of Education	Mahatma Phule Krishi Vidyapeeth, Rahuri
4	Member	Hon. Director of Research	Mahatma Phule Krishi Vidyapeeth, Rahuri
5	Member	Hon. Dean (Agril.)	Mahatma Phule Krishi Vidyapeeth, Rahuri
6	Member	Hon. Dean (Agril. Engg.)	Mahatma Phule Krishi Vidyapeeth, Rahuri
7	Member	Associate Dean (PGI)	Mahatma Phule Krishi Vidyapeeth, Rahuri
8	Member	Associate Dean , Dr. ASCAE	Mahatma Phule Krishi Vidyapeeth, Rahuri
9	Member	Associate Dean (LAE)	Mahatma Phule Krishi Vidyapeeth, Rahuri
10	Member	Associate Dean/ Principal	College of Agriculture, Pune-411005
11	Member	Associate Dean/ Principal	College of Agriculture, Kolhapur
12	Member	Associate Dean/ Principal	College of Agriculture, Dhule
13	Member	Associate Dean/ Principal	College of Agriculture, Nandurbar
14	Member	Associate Dean/ Principal	College of Agriculture, Karad
15	Member	Head, Department of Agronomy	Mahatma Phule Krishi Vidyapeeth, Rahuri
16	Member	Head, Department of Animal Science and Dairy Science	Mahatma Phule Krishi Vidyapeeth, Rahuri
17	Member	Head, Department of Agril. Botany	Mahatma Phule Krishi Vidyapeeth, Rahuri
18	Member	Head, Department of Soil Sci. & Agril. Chemistry	Mahatma Phule Krishi Vidyapeeth, Rahuri
19	Member	Head, Department of Agril. Economics	Mahatma Phule Krishi Vidyapeeth, Rahuri
20	Member	Head, Department of Agril. Engineering	Mahatma Phule Krishi Vidyapeeth, Rahuri
21	Member	Head, Department of Agril. Entomology	Mahatma Phule Krishi Vidyapeeth, Rahuri
22	Member	Head, Department of Agril. Extension	Mahatma Phule Krishi Vidyapeeth, Rahuri
23	Member	Head, Department of Horticulture	Mahatma Phule Krishi Vidyapeeth, Rahuri
24	Member	Head, Department of Plant Pathology	Mahatma Phule Krishi Vidyapeeth, Rahuri
25	Member	Head, Department of Food Science & Technology	Mahatma Phule Krishi Vidyapeeth, Rahuri
26	Member	Head, Department of Bio-Chemistry	Mahatma Phule Krishi Vidyapeeth, Rahuri
27	Member	Head, IFD-Irrigation Water Management	Mahatma Phule Krishi Vidyapeeth, Rahuri
28	Member	Head, Department Agril. Meteorology	College of Agriculture, Pune-411005
29	Member	Head, Department of Farm Machinery & Power, Mech.Engg., Physics,	Mahatma Phule Krishi Vidyapeeth, Rahuri
30	Member	Head, Department of Irri.& Drainage Engg.	Mahatma Phule Krishi Vidyapeeth, Rahuri
31	Member	Head, Department of Soil & Water Conservation Engg.,	Mahatma Phule Krishi Vidyapeeth, Rahuri
32	Member	Head, Department of Agril. Process Engg.,	Mahatma Phule Krishi Vidyapeeth, Rahuri



33	Member	Head, Department of Farm Structure Rural Elect. Civil & Elect. Engg.	Mahatma Phule Krishi Vidyapeeth, Rahuri
34	Member	Soil Specialist	Agril. Research Station, Solapur
35	Member	Sugarcane Specialist	Central Sugarcane Research Station, Padegaon
36	Member	Oilseeds Specialist	Oilseeds Research Station, Jalgaon
37	Member	Wheat Specialist	Wheat Research Station, Niphad
38	Member	Dr. A.A. Atre	Asso. Prof. Soil & Water Conservation En- gg., Dr. ASCAE, MPKV, Rahuri (1 Nov. 13 to 31 Oct. 16)
39	Member	Student Welfare Officer	Mahatma Phule Krishi Vidyapeeth, Rahuri
40	Member Secretary	Hon. Registrar	Mahatma Phule Krishi Vidyapeeth, Rahuri
Invitee Member (As per decision of AC (68) held on 15/2/96, vide subject No. 2)			
41	Invitee	Associate Director of Research	NARC, Shenda Park, Kolhapur
42	Invitee	Associate Director of Research	NARC, Ganeshkhind Pune-7
43	Invitee	Associate Director of Research	NARC, Igatpuri
44	Invitee	Associate Director of Research	NARC, Solapur
45	Invitee	Principal	College of Horticulture, Pune
46	Invitee	Associate Director of Research	Directorate of Research, MPKV, Rahuri
Invitee (As per decision of AC (99) held on 15/11/2013 ,)			
47	Invitee	Dr. P.U.Krishnaraj,	Professor & Head, Department of Biotechnology, Institute of Agril. Biotechnology, University of Agril Sciences, Dharwad-580005
48	Invitee	Er. Rajeeb Kumar,	No.13, Victorian Meadows, Behind Bagecha Restrurant Airport, Varthur Rd, Bagalore-560 037
49	Invitee	Dr. V. M. Mayande,	B-504, Mont Vert, Biarritz-2, Baner-Pashan Link Road, Pune-411 021
50	Invitee	Dr. R. K. Pal	Director, NRC, Pomegranate, NH-9, Soapur-Pune Highway, Kegaon (PO), Solapur District, M.H. India-413255
Principal (Affiliated Colleges) (MAU Act 1983, Section 33(2)(viii) read with Statute 4(viii)			
51	Member	The Principal	College of Agril. Business Manegement, Narayangaon, Dist-Pune
52	Member	The Principal	College of Agriculture, Akluj, Dist-Solapur
53	Member	The Principal	College of Agril. Biotechnology, Vidyanagari, Bhigwan Road, Baramati, Dist-Pune
54	Member	The Principal	College of Agriculture, Ambi, Tal-Wadgaon Maval, Dist-Pune
55	Member	The Principal	K.K. Wagh College of Agriculture, Nasik, Dist-Nasik



7.4 Academic Officer

Sl. No.	Designation of post	Name of Officer	Pay Scale (Rs.)	Period	
				From	To
1.	Associate Dean (PGI)	Dr. B. R. Ulmek	37400-67000 +10000 AGP	01.04.2013	31.3. 2014
2.	Associate Dean, Agril. Engineering	Dr. P. A. Turbatmat	37400-67000 +10000 AGP	01.04.2013	31.3. 2014
3.	Associate Dean (LAE)	Dr. R. S. Patil	37400-67000 +10000 AGP	01.04.2013	31.03.2014
4.	Associate Dean, College of Agril. Dhule	Dr. P. N. Rasal	37400-67000 +10000 AGP	01.04.2013	31.3. 2014
5.	Associate Dean, College of Agril. Pune	Dr. A. R. Karale	37400-67000 +10000 AGP	01.4.2013	31.03.2014
6.	Associate Dean, College of Agril. Kolhapur	Dr. G. G. Khot Holding additional charge	37400-67000 +10000 AGP	1.4.2013	31.3.2014

7.5 Academic Staff- Head of Department

Sl. No.	Designation of post	Name of Officer	Pay Scale (Rs.)	Period	
				From	To
1.	Head, Department of Agronomy	Dr. M. B. Dhonde Holding additional charge.	37400-67000 +10000 AGP	1.04.2013	25.9.2013
		Dr. D. W. Thawal Holding additional charge.	37400-67000 +10000 AGP	26.09.2013	31.3. 2014
2.	Head, Department of Soil Science & Agril. Chemistry	Dr. A. L. Pharande	37400-67000 +10000 AGP	1.4.2013	31.3. 2014
3.	Head, Department of Agril. Botany	Dr. R. W. Bharud Holding additional charge	37400-67000 +10000 AGP	1.4.2013	31.3.2014
4.	Head, Department of Entomology	Dr. S. S. Jadhav	37400-67000 +10000 AGP	1.4.2013	03.12.2013
		Dr. S. S. Jadhav Additional Charge	37400-67000 +10000 AGP	4.12.2013	31.3.2014
5.	Head, Department of Pathology	Dr. S. G. Borkar	37400-67000 +12000 AGP	1.4.2013	31.03.2014
6.	Head, Department of Horticulture	Dr. S. A. Ranpise Holding additional charge	37400-67000 +10000 AGP	1.4.2013	31.3. 2014
7.	Head, Department of Animal Science & Dairy Science	Dr. Y. G. Fulpagare Holding additional charge	37400-67000 +10000 AGP	1.4.2013	31.3. 2014
8.	Head, Department of Food Science & Technology	Dr. S. S. Thorat Holding additional charge	37400-67000 +10000 AGP	1.4.2013	31.3. 2014



Sl. No.	Designation of post	Name of Officer	Pay Scale (Rs.)	Period	
				From	To
9.	Head, Department of Agril. Engineering	Shri. P. A. Turbatmat	37400-67000 +10000 AGP	1.4.2013	31.3. 2014
10.	Head, Department of Agril. Meteorology	Dr. D. W. Thawal Holding Additional Charge	37400-67000 +10000 AGP	01.04.2013	25.09.2013
		Dr. S. B. Kharbade Holding Additional Charge	37400-67000 +10000 AGP	26.09.2013	31.03.2014
11.	Head, Department of Extension Education	Dr. S. B. Shinde Holding Additional Charge	37400-67000 +10000 AGP	01.04.2013	31.03.2014
12.	Head, Department of Agril. Economics	Dr. D. B. Yadav	37400-67000 +10000 AGP	1.4.2013	31.3. 2014
13.	Sugarcane Specialist, Padegaon	Dr. S. M. Pawar Holding Additional Charge	37400-67000 +10000 AGP	01.4.2013	31.03.2014
14.	Principal Scientist, Jalgaon	Dr. S. C. Patil Holding additional charge	37400-67000 +10000 AGP	1.4.2013	31.3.2014
15.	Chief Scientist & Associate Director of Research, NARP, Solapur	Dr. J. R. Kadam	37400-67000 +10000 AGP	1.4.2013	31.3.2014
16.	Wheat Specialist, ARS, Niphad	Dr. A. P. Padhay	37400-67000 +10000 AGP	1.4.2013	31.3.2014

7.6 Other Officers

Sl. No.	Designation of post	Name of Officer	Pay Scale (Rs.)	Period	
				From	To
1.	Registrar	Shri. S. R. Wankhede	37400-67000 + 8700 AGP	1.4.2013	31.03.2014
2.	Comptroller	Shri. P. B. Kardile	15600-39100 + 6600 AGP	1.04.2013	31.03.2014
3.	Students Welfare Officer	Shri. S. V. Patil, Holding additional charge	15600-39100 + 6600 AGP	1.4.2013	31.03.2014
4.	University Librarian	Shri. P. A. Shinde	37400-6700 +10000 AGP	1.4.2013	31.03.2014
5.	University Engineer	Shri. M. P. Dhoke (Additional Charge)	15600-39100 + 6600 GP	01.04.2013	31.03.2014



7.7 University Manpower

Sl. No.	Cadre	Pay Scale (Revised)	Sanctioned Posts	Posts filled in	Vacant posts	Remarks
1	2	3	4	5	6	7
	Group-A					
1	Vice-Chancellor	Fix Pay Rs.75,000/-	1	1	0	
2	Director of Instructions And Dean, Faculty of Agriculture,	37400-67000 + GP 10000 + SPL.4000	1	0	1	
3	Director of Research	37400-67000 + GP 10000 + SPL.4000	1	0	1	
4	Director of Extension Education	37400-67000 + GP 10000 + SPL.4000	1	1	0	
5	Associate Dean	37400-67000 + GP 10000 + SPL.3000	8	2	6	
6	Head of Department	37400-67000 + GP 10000	12	4	8	
	Professor	37400-67000 + GP 10000	120	46	74	
7	Associate Professor	37400-67000 + GP 9000	229	158	71	
8	Assistant Professor	15600-39100 + GP 6000	415	282	133	
9	Sports Officer	15600-39100 + GP 6000	1	1	0	
10	Physical Training Instructor	15600-39100 + GP 6000	6	5	1	
11	College Liabrarian	15600-39100 + GP 6000	5	3	2	
12	Registrar	37400-67000 + GP 8700	1	1	0	
13	Comptroller	15600-39100 + GP 6600	1	1	0	
14	Students Welfare Officer	15600-39100 + GP 6600	1	0	1	
15	University Librarian	37400-67000 + GP 10000	1	1	0	
16	University Engineer	15600-39100 + GP 7600	1	1	0	
17	Deputy Registrar	15600-39100 + GP 6600	2	1	1	
18	Asstt. Registrar/ Asstt. Comptroller	9300-34800 + GP 4600	20	15	5	
19	Deputy Uni. Engineer	15600-39100 + GP 6900	1	0	1	
20	Asstt. Uni.Engineer	9300-34800 + GP 5400	1	1	0	
21	P.A. to Vice- Chancellor	9300-34800 + GP 4600	1	0	1	
22	Medical Officer	9300-34800 + GP 5400	2	1	1	
23	Security Officer	9300-34800 + GP 5400	1	0	1	
24	Pay and Accounts Officer	9300-34800 + GP 4600	3	3	0	
	Group-B					
25	Sr.Res.Asstt.	9300-34800 + GP 4600 (M.Sc. & II Class & 5 year service) 9300-34800 + GP 4400	147	136	11	



Sl. No.	Cadre	Pay Scale (Revised)	Sanctioned Posts	Posts filled in	Vacant posts	Remarks
1	2	3	4	5	6	7
26	Veterinary Officer	9300-34800 + GP 4400 (For Graduate) 9300-34800 + GP 4300 (For others)	03	01	02	
27	Superintendent	9300-34800 + GP 4400	35	25	10	
28	Asstt. Supdt.	9300-34800 + GP 4300	54	33	21	
29	Stenographer(H.G.)	9300-34800 + GP 4400	10	7	3	
30	Stenographer(L.G)	9300-34800 + GP 4300	19	9	10	
31	Technical Asstt.(Lib)	5200-20200 + GP 2800	01	00	01	
32	Junior Engineer	9300-34800 + GP 4400 (for Graduate) 5200-20200 + GP 2900 (For Diploma)	16	15	01	
33	Chief Artist	9300-34800 + GP 4300	01	01	00	
34	Sr. Tech. Asstt.	9300-34800 + GP 4300	02	01	01	
35	Movie Cameraman	9300-34800 + GP 4300	01	00	01	
Group-C						
36	Jr.Res.Asstt.	9300-34800 + GP 4200	187	146	41	
37	Jr.Vet. Officer	9300-34800 + GP 4400 (For Graduate) 5200-20200 + GP 2800 (For others)	02	01	01	
38	Agril. Asstt.	5200-20200 + GP 2800 (After 7 years service) 5200-20200 + GP 2400	606	525	81	
39	Live-Stock Supervisor	5200-20200 + GP 2400	8	7	1	
40	Sr.Clerk	5200-20200 + GP 2400	151	132	19	
41	Clerk-Cum-Typist	5200-20200 + GP 1900	234	160	74	
42	Steno Typist	5200-20200 + GP 2400	15	5	10	
43	Chief-Cataloguer	5200-20200 + GP 2800	9	6	3	
44	Issue Asstt.	5200-20200 + GP 2000	9	6	3	
45	Draughtsman	5200-20200 + GP 2800 5200-20200 + GP 4200 (After 4 year service)	08	6	2	
46	Tracer	5200-20200 + GP 2000 5200-20200 + GP 2400 (After 7 year service)	8	06	2	
47	Sr. Mechanic	5200-20200 + GP 2400	4	4	0	
48	Mechanic-Cum Electrician	5200-20200 + GP 2400	01	01	00	
49	Jr. Mechanic	5200-20200 + GP 1900	03	03	00	
50	Technical Asstt.	5200-20200 + GP 2800	04	4	0	



Sl. No.	Cadre	Pay Scale (Revised)	Sanctioned Posts	Posts filled in	Vacant posts	Remarks
1	2	3	4	5	6	7
51	Mechanical Supervisor	5200-20200 + GP 2800	01	01	00	
52	Foremen Supervisor	5200-20200 + GP 2800	03	01	02	
53	Farm Mechanic	5200-20200 + GP 2400	04	3	1	
54	Fitter-Cum-Mechanic	5200-20200 + GP 2400	01	01	00	
55	Fitter	5200-20200 + GP 2400	06	5	1	
56	Machinist	5200-20200 + GP 2400	01	01	00	
57	Turner	5200-20200 + GP 2400	03	02	01	
58	Foundryman	5200-20200 + GP 2400	03	03	00	
59	Audio Visual Operator	5200-20200 + GP 2400	04	3	1	
60	Carpenter	5200-20200 + GP 2400 (For ITI) 5200-20200 + GP 2000 (For others)	11	11	00	
61	Welder	5200-20200 + GP 2400	03	02	01	
62	Wireman	5200-20200 + GP 2400 (For ITI) 5200-20200 + GP 1900 (For others)	24	19	5	
63	Compounder (Medical)	5200-20200 + GP 2800	02	02	00	
64	Nurse	9300-34800 + GP 4200	01	01	00	
65	Photographer	5200-20200 + GP 2800	02	2	0	
66	Artist-Cum- Photographer	5200-20200 + GP 2800	04	3	1	
67	Dark Room Asstt.	5200-20200 + GP 2400	02	02	00	
68	Asstt. Security Officer	5200-20200 + GP 2800	01	01	00	
69	Plumber	5200-20200 + GP 1900	05	3	2	
70	Maistry	5200-20200 + GP 1900	12	6	6	
71	Surveyer	5200-20200 + GP 2400	01	01	00	
72	Pump Operator	5200-20200 + GP 1900	03	02	01	
73	Compositor	5200-20200 + GP 2000	02	02	00	
74	Printer	5200-20200 + GP 2000	01	01	00	
75	Sr.Artist	5200-20200 + GP 2800	01	01	00	
76	Blacksmith	5200-20200 + GP 2400 (For ITI) 5200-20200 + GP 2000 (For others)	06	04	02	
77	Telephone Operator	5200-20200 + GP 2400	02	2	0	
78	Electrician	5200-20200 + GP 2400	01	01	00	
79	Computer Operator	9300-34800 + GP 4200	02	00	02	
80	Jeep Driver	5200-20200 + GP 1900	72	51	21	
81	Tractor Driver	5200-20200 + GP 2000	16	9	7	



Sl. No.	Cadre	Pay Scale (Revised)	Sanctioned Posts	Posts filled in	Vacant posts	Remarks
1	2	3	4	5	6	7
82	Compounder(Vet.)	5200-20200 + GP 2400	04	04	00	
83	Oil Engine Driver	5200-20200 + GP 1900	02	00	02	
	Group-D					
84	Mali	5200-20200 + GP 1800 (For Mali Training Certificate Pass) 4440-7440 + GP 1300 (For others)	58	33	25	
85	Counter	4440-7440 + GP 1600	54	52	2	
86	Khansama	4440-7440 + GP 1600	05	1	4	
87	Khalashi	4440-7440 + GP 1600	02	0	2	
88	Lab Attendent	5200-20200 + GP-1900 (For SSC Pass) 4440-7440 + GP 1300 (For others)	45	35	10	
89	Lab-boy/keeper	4440-7440 + GP 1300	74	66	8	
90	Attendant	4440-7440 + GP 1300	14	10	4	
91	Paricharak	4440-7440 + GP 1300	01	01	00	
92	G.House Attendant	4440-7440 GP 1300	02	0	2	
93	Lib Attendent	5200-20200 + GP-1900 (SSC with Lib. Certificate) 4440-7440 + GP 1600 (For others)	08	04	04	
94	Helper	4440-7440 + GP 1300	12	11	01	
95	Wireman Helper	4440-7440 + GP 1300	08	6	2	
96	Cleaner	4440-7440 + GP 1300	03	02	01	
97	Beldar	4440-7440 + GP 1300	02	0	2	
98	Messenger	4440-7440 + GP 1300	05	3	2	
99	Security Guard	4440-7440 + GP 1300	15	13	2	
100	Sweeper	4440-7440 + GP 1300	23	22	01	
101	Peon	4440-7440 + GP 1300	271	217	54	
102	Bullock Man	4440-7440 + GP 1300	86	75	11	
103	Ploughman	4440-7440 + GP 1300	27	21	6	
104	Watchman	4440-7440 + GP 1300	156	127	29	
105	Animal Attendant	4440-7440 + GP 1300	15	10	05	
106	Milkman	4440-7440 + GP 1300	13	11	2	
107	Hamal	4440-7440 + GP 1300	02	02	00	
108	Dresser	4440-7440 + GP 1300	04	00	04	
109	Plant Collector	4440-7440 + GP 1300	05	2	3	
110	Vet Attendent	4440-7440 + GP 1300	03	2	1	



Sl. No.	Cadre	Pay Scale (Revised)	Sanctioned Posts	Posts filled in	Vacant posts	Remarks
1	2	3	4	5	6	7
111	Store. Asstt	4440-7440 GP 1300	01	01	00	
112	Musiam Boy	4440-7440 GP 1300	01	01	00	
113	Field Maz.	4440-7440 GP 1300	02	01	01	
114	Field Servant	4440-7440 GP 1300	02	1	1	
115	Deliveryman	4440-7440 GP 1300	06	2	4	
116	Dairyman	4440-7440 GP 1300	02	1	1	
117	Gawali	4440-7440 GP 1300	03	3	0	
118	Herdsmen	4440-7440 GP 1300	03	02	01	
119	Polutaryman	4440-7440 GP 1300	04	4	0	
120	Dispensary Attendant	4440-7440 GP 1300	01	01	00	
121	Naik	4440-7440 GP 1600	04	3	1	
122	Massion	4440-7440 GP 1600	04	2	2	
123	Calfman	4440-7440 GP 1300	03	2	1	
124	Binder	4440-7440 GP 1600	01	00	01	
125	Ward Servant	4440-7440 GP 1300	01	01	00	
126	Workshop Mazdoor	4440-7440 GP 1300	04	04	00	
127	Mazdoor	4440-7440 GP 1300	1344	914	430	



8. CAMPUS DEVELOPMENT ACTIVITIES COMPLETED WORKS

Sr. No.	Name of Works	Estimated Cost (in Lakhs)	Fund Head
1	Construction of Farmers Hostel of Krishi Vigyan Kendra at Mamurabad Farm, Jalgaon.	39.43	ICAR KVK
2	Construction of Administrative Building of KVK, Borgaon, Dist - Satara.	66.76	ICAR KVK
3	Construction of Inset proof screen house at ARS, (Citrus Centre) Shirampur, Tal - Shirampur, Dist - Ahmednagar.	4.88	ICAR AICRP on Citrus
4	Construction of Farmers Hosel of KVK, Borgaon, Dist - Satara.	37.13	ICAR KVK
5	Construction of Seed Processing and storage unit for Medicinal and Aromatic Plants Project at C. C. Rahuri.	9.98	CES NHM
6	Providing PVC gravity pipe line from Sy. No. 41 to Mango Plot for Horticulture Nursery at C. C. Rahuri.	9.61	Revolving fund
7	Providing Chain link fencing to Horticulture farm at C. C. Rahuri.	17.96	Revolving fund
8	Construction of WBM road with surface dressing at Horticulture farm at C. C. Rahuri.	24.71	Revolving fund
9	Construction Implement shed for Horticulture Nursery at C. C. Rahuri.	11.12	Revolving fund
10	Construction of RCC compound wall with bricks masonry along NH 3 and staff qtr. At Onion and Grapes Research Station, Pimpalgaon Baswant, Nashik.	21.19	University Receipt
11	Construction of working shed and office cum store for Horticulture Nursery at C. C. Rahuri.	11.19	Revolving fund Horti.
12	Extension of Examination hall at A. C. Kolhapur.	17.95	University Receipt
13	Construction of Administrative building of KVK, at Mamurabad farm, Jalgaon.	70.00	ICAR SAU
14	Construction of Post Graduate Students Hostel at A. C. Dhule.	75.00	University Receipt
15	Construction of compost unit spawn unit and training hall under NHM Mashroom Project at A. C. Pune.	50.00	NHM



9. University Budget

The Financial Status of Universities

The University receives grant in – aid mainly from State Govt. of Maharashtra, Indian Council of Agril. Research, New Delhi and Govt. of India. This University received ₹ 3343360 Thousand during the year 2013-14 from State Govt. of Maharashtra, Indian Council of Agril. Research, New Delhi and Govt. of India. The University generated revenue receipt of Rs. 247087 Thousand during the financial year 2013-14. Out of above total grants University incurred the expenditure of Rs. 3125501 Thousand. The details of grants received, revenue receipts generated and expenditure incurred by the University are given below.

Sl. No	Head of Account	Released Grants for F.Y. 13-14	Expenditure
A) State Govt. 01- Crop.Husb.(Non-Plan)			
1.	Pension	73,16,13,000	73,16,13,000
2.	D.C.P.S.	2,00,00,000	2,00,00,000
3.	Salary	140,40,63,000	117,86,81,000
4.	Contingency	7,03,49,400	7,03,49,400
5.	Maintenance & Repairs	10,80,00,000	10,80,00,000
6.	Concession for Girls (Education & Hostel Fee)	36,19,800	36,19,800
7.	GIA - Salary	28,28,000	28,28,000
8.	GIA - Contingency	1,41,300	1,41,300
	Total Rs .	234,06,14,500	211,52,32,500
B) State Govt. 03- Animal Husb.(Non-Plan)			
1.	Salary	2,80,93,000	2,18,34,000
2.	Contingency	11,55,600	11,55,600
	Total Rs.	2,92,48,600	2,29,89,600
	Total Rs. A + B	236,98,63,100	213,82,22,100
C) State Govt. 01- Crop.Husb.(Plan)			
1.	State Govt. Plan Scheme	7,20,00,000	7,20,00,000
	Total Rs.	7,20,00,000	7,20,00,000
D) State Govt. Crop.Husb.(Plan)			
1	Agril. College, Nandurbar	12,00,00,000	12,00,00,000
	Total Rs.	12,00,00,000	12,00,00,000
E) State Govt. (Schemes)			
1.	Rashtriya Krishi Vikas Yojana	8,68,77,500	8,68,77,500
2.	National Horticulture Mission	2,22,08,000	2,22,08,000
3.	E.B.C. Scholarship	1,49,86,380	1,49,86,380
4.	National Service Scheme	9,12,000	9,12,000
5.	Mah.State Floro. & Medi.Plant Bord	39,64,900	39,64,900
	Total Rs.	12,89,48,780	12,89,48,780
F) I.C.A.R., New Delhi			
1.	75 : 25 % Schemes	20,57,46,941	20,57,46,941
2.	100 % Schemes	14,72,74,422	14,72,74,422
	Total Rs.	35,30,21,363	35,30,21,363
G) Central Govt. Scheme			
1.	Central Govt. Scheme	5,24,40,073	5,24,40,073
	Total Rs.	5,24,40,073	5,24,40,073
H) University Revenue Receipts			
1.	Revenue Receipts	24,70,87,000	26,08,69,000
	Total Rs.	24,70,87,000	26,08,69,000
	Total Rs. (A+B+C+D+E+F+G+H)	334,33,60,316	312,55,01,316

