

Date: 27/02/2023

To,
The Principal
K. K. Wagh College of Agriculture,
Nashik

Subject Regarding permission for Certificate Course.....

Respected Sir,

On behalf of the Department of Horticulture, we humbly request permission to initiate a Certificate course titled '**Vegetable Grafting: Concept and Application**'. This course is scheduled from 13/03/2023 to 18/03/2023 and will involve approximately 20 final-year students. It is anticipated that this course will greatly benefit our students in enhancing their knowledge about advance technique and practical skills in propagation of vegetable crops. We kindly ask for your approval for the implementation of this course.

Thanking You,

Yours faithfully,



(Mr. Y. R. Kadam)
Course Coordinator

Permission granted

ve
27/2



K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135 **AISHE Code: C-50690**

☎: (0253)2555221, 255522 ✉ - principal-bscagri@kkwagh.edu.in 🌐 <https://agri-bsc.kkwagh.edu.in>

Certificate course in


'Vegetable Grafting: Concept and Application'

Academic Year 2022-23

Syllabus Committee

Sr no	Name of teacher	Designation	Department	Role in course
1	Prof. Y. R. Kadam	Assistant Professor	Horticulture	Course coordinator
2	Prof. A. C. Jadhav	Assistant Professor	Horticulture	Committee member
3	Prof. S. G. Thakare	Assistant Professor	Horticulture	Committee member
4	Prof. T. B. Ugale	Assistant Professor	Entomology	Committee member
5	Prof. S. K. Ahirrao	Assistant Professor	Plant Pathology	Committee member


Course Coordinator


PRINCIPAL
K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik





K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135 AISHE Code: C-50690

☎: (0253)2555221, 255522 ☒ - principal-bscagri@kkwagh.edu.in 🌐 https://agri-bsc.kkwagh.edu.in

Date:02/03/2023

Academic Year 2022-23
Department of Horticulture
Minutes of the Board of Studies Meeting for the Short-Term Certificate Course

A meeting of the Board of Studies for the Short-term Certificate Course in '**Vegetable Grafting: Concept and Application**' was convened on 1 March 2023, at 12:00 PM in the Department of Horticulture. The meeting was attended by the following Syllabus Design Committee members:

Sr no	Name of the expert	Designation	Sign
1	Dr. S. M. Hadole	Principal	
2	Prof. Y. R. Kadam	Course Coordinator	
3	Prof. A. C. Jadhav	Member	
4	Prof. S. G. Thakare	Member	
5	Prof. T. B. Ugale	Member	
6	Prof. S. K. Ahirrao	Member	

Minutes of Meeting

The Board of Studies convened a meeting on 1 March 2023, at 12:00 PM in the Department of Horticulture to address various aspects concerning the Short-Term Certificate Course in '**Vegetable Grafting: Concept and Application**'. The meeting focused on the following key points:

1. Syllabus Formation: Members deliberated on developing a syllabus that emphasizes on relevant knowledge and skills in vegetable grafting.
2. Dissemination of Work: Strategies for effectively teaching vegetable propagation techniques were discussed to aid students in the course.
3. Encouragement of Students: The meeting stressed the importance of offering guidance and motivation to students. Grafting was recognized as an effective alternative against various biotic and abiotic stresses, emerging as an environmentally friendly and climate-resilient approach.
4. Examination of Short-Term Course: The examination structure and assessment methods for the short-term course were reviewed. The board explored ways to ensure fair and comprehensive evaluations that accurately assess students'

The meeting concluded with a commitment to refine the course and its delivery methods to better meet the needs of students enrolled in the Certificate Course in '**Vegetable Grafting: Concept and Application**'

Course coordinator



PRINCIPAL
K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik



K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code:11135
AISHE Code: C-50690

Phone: (0253)2555221, 255522 Email: principal-bscagri@kkwagh.edu.in Website: https://agri-bsc.kkwagh.edu.in

Department of Horticulture

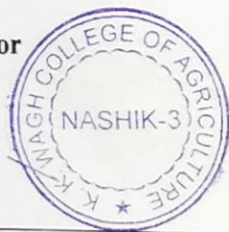
Certificate course in 'Vegetable Grafting: Concept and Application' Academic Year 2022-23

Syllabus Outcomes:

1. Gain awareness of historical and current perspectives of vegetable grafting.
2. Perform various vegetable propagation methods.
3. Acquire knowledge on abiotic stress tolerance in vegetables through grafting technology.
4. Understand the role of vegetable grafting in addressing biotic stresses.
5. Explore methods for addressing nematode problems through vegetable grafting.
6. Examine the commercial aspects of vegetable grafting.

Sr no	Topic	Description	No of Lectures
1	What is vegetable grafting	Concept, Reasons for Vegetable Grafting, Material Required for Grafting	03 hours
2	Historical and Current Perspectives of Vegetable Grafting	References of Historical and Current Perspectives of Vegetable Grafting	03 hours
3	Methods of Vegetable Grafting	Different methods, Rootstocks used in different vegetable crops	06 hours
4	Physiology of Graft Union Formation	Purposes of grafting	06 hours
5	Soil-borne Pathogens in Vegetable Crops: Status	Introduction, Important soil borne diseases affecting various crops, Management of soil borne diseases	06 hours
6	Effect and Management of Abiotic Stresses in Vegetable Crops	Introduction, Abiotic stresses and their impacts and management.	06 hours
7	Commercial Aspects of Vegetable Grafting	Global scenario, Commercial advantages of vegetable grafting	06 hours
Total			36 hours


Course Coordinator




PRINCIPAL
K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik



K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135 AISHE Code: C-50690

☎: (0253)2555221, 255522 ✉ - principal-bscagri@kkwagh.edu.in 🌐 <https://agri-bsc.kkwagh.edu.in>


Date:04/03/2023

Student Notice

All the students of B. Sc. (Hons.) Agriculture final year are informed that for the academic year 2022-23 the Certificate Course on '**Vegetable Grafting: Concept and Application**' is starting from 13/03/2023 to 18/03/2023. For this certificate course students should submit their names to the Certificate Course Coordinator Assistant Prof. A. C. Jadhav up to 08/03/2023.

Duration: 36 Hrs. 13/03/2023 to 18/03/2023
Time: Morning Session: 10.00 am to 1.00 pm
Afternoon session: 2.00pm to 5.00 pm

Note: This course is free of cost to all students.


Course Coordinator
(P. R. Kadam)




Principal
K. K. Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik




K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135 AISHE Code: C-50690

☎: (0253)2555221, 255522 ✉ - principal-bscagri@kkwagh.edu.in 🌐 <https://agri-bsc.kkwagh.edu.in>


Department of Horticulture
Certificate course in
'Vegetable Grafting: Concept and Application'
Academic Year 2022-23

Enrolled Student List

SR NO	REGISTRATION NO	NAME OF STUDENT
1	AKN-2019/002	Aher Ajinkya Vijay
2	AKN-2019/007	Awari Nutan Kailas
3	AKN-2019/009	Bangar Anushka Balkrishna
4	AKN-2019/010	Bankar Vaishnavi Keshav
5	AKN-2019/011	Bhadane Anurag Raju
6	AKN-2019/013	Bhadange Rushikesh Sanjay
7	AKN-2019/018	Chaudhari Pratik Sopan
8	AKN-2019/020	Chinchole Sumit Sharad
9	AKN-2019/025	Deshmukh Akash Pradip
10	AKN-2019/027	Deshmukh Mrunal Vasantao
11	AKN-2019/036	Gadekar Harshad Anil
12	AKN-2019/038	Gaikwad Prachi Sanjay
13	AKN-2019/039	Gaikwad Rahul Dnyandev
14	AKN-2019/047	Gatkal Aditya Vinayak
15	AKN-2019/052	Ghongade Swapnil Balasaheb
16	AKN-2019/055	Jadhav Abhiraj Ramrao
17	AKN-2019/056	Jadhav Hemant Madhukar
18	AKN-2019/063	Kadam Vedant Prakash


Course Coordinator




PRINCIPAL
K.K. Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik



K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003, Maharashtra
College Code:11135 AISHE Code: C-50690

☎:(0253)2555221, 255522 ✉ - principal-bscagri@kkwagh.edu.in 🌐 https://agri-bsc.kkwagh.edu.in

STUDENT REGISTRATION FORM

Academic Year: 2022-23
(Department of Horticulture)



CERTIFICATE COURSE

'Vegetable Grafting: Concept and Application'

For Department Use Only

Registration No.: AKN-2019-1047

--	--	--	--	--	--	--	--

Student ID:

Name of the Student: Gatkal Aditya Vinayak

Mother's Name: Gatkal Aika Vinayak

Father's Name: Gatkal Vinayak Year: 1st/2nd/3rd/4th

E-Mail ID: gatkaladitya@gmail.com

Address: Nashik

State: Maharashtra PIN Code: 422003

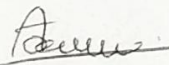
Mobile No: 8080797795 Alternate contact number: -

Gender: Male Female Other Religion: Hindu

Date of Birth: 28/10/2001

Educational Qualification (at the time of admission):

HSC Other


Signature of Student

Place: Nashik

Date: 08/03/2023





K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135 AISHE Code: C-50690

☎: (0253)2555221, 255522 ✉ - principal-bscagri@kkwagh.edu.in 🌐 https://agri-bsc.kkwagh.edu.in

STUDENT REGISTRATION FORM

Academic Year: 2022-23
(Department of Horticulture)



CERTIFICATE COURSE

'Vegetable Grafting: Concept and Application'

For Department Use Only

Registration No.: AKN-2019/007.....

--	--	--	--	--	--	--	--

Student ID:

Name of the Student: Awari Nutan Kailas.....

Mother's Name: Awari Sugandha Kailas.....

Father's Name: Awari Kailas..... Year: 1st / 2nd / 3rd / 4th ✓

E-Mail ID: nutanawari01@gmail.com.....

Address: K. K. Wagh College of Agriculture, Nashik.....

State: Maharashtra..... PIN Code: 422003.....

Mobile No: 9022070969. Alternate contact number:.....

Gender: Male Female Other

Religion: Hindu.

Date of Birth: 17/03/2001.....

Educational Qualification (at the time of admission):

HSC Other

Nutan
Signature of Student

Place: Nashik

Date: 8/3/2023





K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135 AISHE Code: C-50690

☎: (0253)2555221, 255522 ✉ - principal-bscagri@kkwagh.edu.in 🌐 <https://agri-bsc.kkwagh.edu.in>

Department of Horticulture

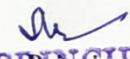
Certificate course in
'Vegetable Grafting: Concept and Application'
Academic Year 2022-23

Schedule of the course

Sr no	Topic	Description	Name of the teacher	Department
1	What is vegetable grafting	Concept, Reasons for Vegetable Grafting, Material Required for Grafting	Prof. Y. R. Kadam	Horticulture
2	Historical and Current Perspectives of Vegetable Grafting	References of Historical and Current Perspectives of Vegetable Grafting	Prof. A. C. Jadhav	Horticulture
3	Methods of Vegetable Grafting	Different methods, Rootstocks used in different vegetable crops	Prof. Y. R. Kadam	Horticulture
4	Physiology of Graft Union Formation	Introduction, physiology of graft union	Prof. S. G. Thakare	Horticulture
5	Soil-borne Pathogens in Vegetable Crops: Status	Introduction, Important soil borne diseases affecting various crops, Management of soil borne diseases	Prof. T. B. Ugale and Prof. S. K. Ahirrao	Entomology Plant Pathology
6	Effect and Management of Abiotic Stresses in Vegetable Crops	Introduction, Abiotic stresses and their impacts	Prof. Y. R. Kadam	Horticulture
7	Commercial Aspects of Vegetable Grafting	Global scenario, Commercial advantages of vegetable grafting	Prof. A. C. Jadhav	Horticulture


Course Coordinator




Principal
K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik



K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code:11135 AISHE Code: C-50690

☎: (0253)2555221, 255522 ☑ - principal-bscagri@kkwagh.edu.in 🌐 <https://agri-bsc.kkwagh.edu.in>

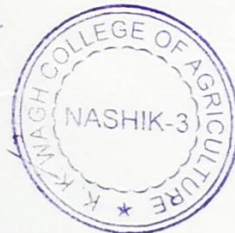
Department of Horticulture

**Certificate course in
'Vegetable Grafting: Concept and Application'
Academic Year 2022-23**

Time Table

Sr no	Date	Time		Topic
1	13/03/2023	10.00 am- 01.00 pm	03.00 pm - 05.00 pm	What is vegetable grafting
2	14/03/2023	10.00 am- 01.00 pm	03.00 pm - 05.00 pm	Historical and Current Perspectives of Vegetable Grafting
3	15/03/2023	10.00 am- 01.00 pm	03.00 pm - 05.00 pm	Methods of Vegetable Grafting
4	16/03/2023	10.00 am- 01.00 pm	03.00 pm - 05.00 pm	Physiology of Graft Union Formation
5	17/03/2023	10.00 am- 01.00 pm	03.00 pm - 05.00 pm	Soil-borne Pathogens in Vegetable
6	18/03/2023	10.00 am- 01.00 pm	03.00 pm - 05.00 pm	Effect and Management of Abiotic Stresses in Vegetable Crops, Commercial Aspects of Vegetable Grafting


Course Coordinator




PRINCIPAL
Principal
K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik

K K WAGH COLLEGE OF AGRICULTURE, NASHIK

Department of Horticulture

Certificate course in 'Vegetable Grafting: Concept and Application'

Academic Year 2022-23

Sr no	Registration no	Name of students	Date:	13/03/2023		14/03/2023		15/03/2023		16/03/2023		17/03/2023		18/03/2023	
				Time:	10.00-1.00	2.00-5.00	10.00-1.00	2.00-5.00	10.00-1.00	2.00-5.00	10.00-1.00	2.00-5.00	10.00-1.00	2.00-5.00	10.00-1.00
1	AKN-2019/002	Aher Ajinkya Vijay		Ajinkya	Ajinkya	Ajinkya	Ajinkya	Ajinkya	Ajinkya	Ajinkya	Ajinkya	Ajinkya	Ajinkya	Ajinkya	Ajinkya
2	AKN-2019/007	Awari Nutan Kailas		Nutan	Nutan	Nutan	Nutan	Nutan	Nutan	Nutan	Nutan	Nutan	Nutan	Nutan	Nutan
3	AKN-2019/009	Bangar Anushka Balkrishna		Bangar	Bangar	Bangar	Bangar	Bangar	Bangar	Bangar	Bangar	Bangar	Bangar	Bangar	Bangar
4	AKN-2019/010	Bankar Vaishnavi Keshav		Bankar	Bankar	Bankar	Bankar	Bankar	Bankar	Bankar	Bankar	Bankar	Bankar	Bankar	Bankar
5	AKN-2019/011	Bhadane Anurag Raju		Anurag	Anurag	Anurag	Anurag	Anurag	Anurag	Anurag	Anurag	Anurag	Anurag	Anurag	Anurag
6	AKN-2019/013	Bhadange Rushikesh Sanjay		Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh
7	AKN-2019/018	Chaudhari Pratik Sopan		Pratik	Pratik	Pratik	Pratik	Pratik	Pratik	Pratik	Pratik	Pratik	Pratik	Pratik	Pratik
8	AKN-2019/020	Chinchole Sumit Sharad		Sumit	Sumit	Sumit	Sumit	Sumit	Sumit	Sumit	Sumit	Sumit	Sumit	Sumit	Sumit
9	AKN-2019/025	Deshmukh Akash Pradip		Akash	Akash	Akash	Akash	Akash	Akash	Akash	Akash	Akash	Akash	Akash	Akash
10	AKN-2019/027	Deshmukh Mrunal Vasant		Mrunal	Mrunal	Mrunal	Mrunal	Mrunal	Mrunal	Mrunal	Mrunal	Mrunal	Mrunal	Mrunal	Mrunal
11	AKN-2019/036	Gadekar Harshad Anil		Harshad	Harshad	Harshad	Harshad	Harshad	Harshad	Harshad	Harshad	Harshad	Harshad	Harshad	Harshad
12	AKN-2019/038	Gaikwad Prachi Sanjay		Prachi	Prachi	Prachi	Prachi	Prachi	Prachi	Prachi	Prachi	Prachi	Prachi	Prachi	Prachi
13	AKN-2019/039	Gaikwad Rahul Dnyandeo		Rahul	Rahul	Rahul	Rahul	Rahul	Rahul	Rahul	Rahul	Rahul	Rahul	Rahul	Rahul
14	AKN-2019/047	Gatkal Aditya Vinayak		Aditya	Aditya	Aditya	Aditya	Aditya	Aditya	Aditya	Aditya	Aditya	Aditya	Aditya	Aditya
15	AKN-2019/052	Ghongade Swapnil Balasaheb		Swapnil	Swapnil	Swapnil	Swapnil	Swapnil	Swapnil	Swapnil	Swapnil	Swapnil	Swapnil	Swapnil	Swapnil
16	AKN-2019/055	Jadhav Abhiraj Ramrao		Abhiraj	Abhiraj	Abhiraj	Abhiraj	Abhiraj	Abhiraj	Abhiraj	Abhiraj	Abhiraj	Abhiraj	Abhiraj	Abhiraj
17	AKN-2019/056	Jadhav Hemant Madhukar		Hemant	Hemant	Hemant	Hemant	Hemant	Hemant	Hemant	Hemant	Hemant	Hemant	Hemant	Hemant
18	AKN-2019/063	Kadam Vedant Prakash		Vedant	Vedant	Vedant	Vedant	Vedant	Vedant	Vedant	Vedant	Vedant	Vedant	Vedant	Vedant

Course Coordinator



Principal
K.K. Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik



K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003, Maharashtra
College Code:11135 AISHE Code: C-50690

☎:(0253)2555221, 255522 ✉ - principal-bscagri@kkwagh.edu.in 🌐 <https://agri-bsc.kkwagh.edu.in>

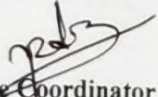
Certificate course in
'Vegetable Grafting: Concept and Application'
Academic Year 2022-23

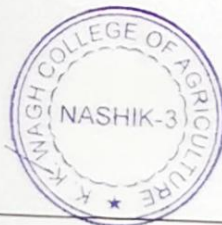
Examination Methodology


Sr no	Nature of exam	Marks
1	Written	30
2	Practical	20
3	Total	50

Reference:

- 1) Abdelmageed A H A, Gruda N. 2009. Influence of grafting on growth, development and some physiological parameters of tomatoes under controlled heat stress conditions. *European Journal of Horticultural Science*, 74 (1): 16-20.
- 2) Abdelmageed, A.H.A., Gruda, N. and Geyer, B. 2004. Effects of temperature and grafting on the growth and development of tomato plants under controlled conditions. In: *Deutscher Tropentag, Rural Poverty Reduction through Research for Development and Transformation*; October 5-7. 2004, pp. 1-5.
- 3) Albacete, A., Martinez-Andujar, C., Perez, A.M., Thompson, A.J., Dodd, I.C. and Alfocea, F.P. (2015). Unravelling rootstock x scion interactions to improve food security. *Journal of Experimental Botany*, 1-16.doi:10.1093/jxb/erv027.
- 4) Bahadur, A., Rai, N., Kumar, R., Tiwari, S.K., Singh, A.K., Rai, A.K., Singh, U., Patel, P.K., Tiwari, V. and Singh, B. 2015. Grafting tomato on eggplant as a potential tool to improve waterlogging tolerance in hybrid tomato. *Vegetable Science*, 42 (2): 82-87.
- 5) Colla, G., Kumar, P., Cardarelli, M., and Roupael, Y. 2013. Grafting an effective tool for abiotic stress alleviation in vegetables. In: *Horticulture for food and environment security* (Chadha et al., Eds.), West Ville Pub. House, New Delhi. pp 15-28.
- 6) https://www.researchgate.net/publication/354118919_Vegetable_grafting_A_noble_way_to_enhance_production_and_quality


Course Coordinator




PRINCIPAL
K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik



K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135 AISHE Code: C-50690


☎: (0253)2555221, 255522 ✉ - principal-bscagri@kkwagh.edu.in 🌐 https://agri-bsc.kkwagh.edu.in

Department of Horticulture


Certificate course in
'Vegetable Grafting: Concept and Application'
Academic Year 2022-23

Student Result

Sr. No.	Registration no	Name of the students	Theory marks (30)	Practical Marks (20)	Mark Out of Total 50
1	AKN-2019/002	Aher Ajinkya Vijay	21	17	38
2	AKN-2019/007	Awari Nutan Kailas	29	19	48
3	AKN-2019/009	Bangar Anushka Balkrishna	27	18	45
4	AKN-2019/010	Bankar Vaishnavi Keshav	21	16	37
5	AKN-2019/011	Bhadane Anurag Raju	22	17	39
6	AKN-2019/013	Bhadange Rushikesh Sanjay	27	16	43
7	AKN-2019/018	Chaudhari Pratik Sopan	23	17	40
8	AKN-2019/020	Chinchole Sumit Sharad	25	18	43
9	AKN-2019/025	Deshmukh Akash Pradip	21	17	38
10	AKN-2019/027	Deshmukh Mrunal Vasantao	22	17	39
11	AKN-2019/036	Gadekar Harshad Anil	23	19	42
12	AKN-2019/038	Gaikwad Prachi Sanjay	28	18	46
13	AKN-2019/039	Gaikwad Rahul Dnyandev	27	17	44
14	AKN-2019/047	Gatkal Aditya Vinayak	24	19	43
15	AKN-2019/052	Ghongade Swapnil Balasaheb	29	25	36
16	AKN-2019/055	Jadhav Abhiraj Ramrao	25	17	42
17	AKN-2019/056	Jadhav Hemant Madhukar	22	16	38
18	AKN-2019/063	Kadam Vedant Prakash	27	18	45


Course Coordinator




Principal
K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik

K. K. Wagh College of Agriculture, Nashik
Department of Horticulture
 Certificate course in 'Vegetable Grafting: Concept and Application'
 Academic Year 2022-23

THEORY EXAMINATION

Class:		Semester :	
Day & Date:		Time:	
Subject:		Marks:	
Name of student:		Registration no:	

Multiple Choice Questions

Q 1. What is Grafting?	
1. A process by which 3 different plants are united	2. A process by which 2 different plants are united so that they grow as one
3. A process by which a plants roots are above ground	4. A process by which a plant cannot grow
Q 2 In grafting good care has to be used to match which layer of the scion and rootstock?	
1. Cambium	2. Scion
3. Root	4. Top
Q 3 Botanical Name of tomato is	
1. <i>Lycopersicon erecta</i>	2. <i>Solanum lycopersicum</i>
3. <i>Lycopersicon esculata</i>	4. <i>Lycopersicon esculentus</i>
Q 4 What is abbreviation IIVR	
1. Indian Institute of Vine Crop Research	2. Indian Institution of Various Resources
3. Indian Institute of Vegetable Research	4. Indian Institute of Variegated Crops Res.
Q 5 The raising of grafted plants of vegetables was first initiated in which country	
1. UK	2. India
3. Denmark	4. Japan
Q 6 What is object of Vegetable Grafting	
1. To develop plant resistance to disease and pests	2. To improve quality
3. To converting poor plants into more desirable one.	4. All
Q 7 Important feature of Brinjal rootstock <i>Solanum intergrifolium</i> use for grafting	
1. Tolerance to cold	2. Resistant to root knot nematode
3. High temperature tolerance	4. Resistance to Fusarium wilt
Q 8 Vegetable grafting method commonly use in solanaceous	
1. Slant grafting	2. Tube grafting
3. Hole Insertion Method	4. Cleft grafting
Q 9 Fusarium wilt of which crops are managed by grafting techniques.	
1. Solaneous crops	2. Cole crops
3. Cucurbits	4. None of above
Q 10 Example of heat sensitive crop	
1. Tomato	2. Cucumber
3. Chilli	4. Brinjal
Q 11 Optimum temperature range for vegetable grafting is	
1. 25-30 ⁰ C	2. 20-25 ⁰ C
3. 35-40 ⁰ C	4. 15-20 ⁰ C
Q 12 Ideal condition for vegetable grafting is.....	
1. 75- 80 % RH with high light intensity	2. 80- 85 % RH with medium light intensity
3. 85- 90 % RH with low light intensity	4. None of above
Q 13 Root stock seedling at a first true leaf stage the..... hypocotyl are desirable	
1. Short	2. Long
3. Medium	4. Pseudo short

Q 14 Who has made a successful attempt to produce Brimato.	1. IIVR, Varanasi	3. IARI, New Delhi
	2. IIHR, Bangalore	4. None of above
Q 15 Most suitable grafting method in tomato is	1. Tongue Grafting	2. Wedge Grafting
	3. Slice Grafting	4. Hole Insertion Method
Q 16 What is Scion	1. Upper part of grafting	2. Lower part of grafting
	3. Middle part of grafting	4. None of above
Q 17 What is the most successful grafting technique?	1. Bench grafting	2. Whip and Tongue Grafting
	3. Slant Grafting	4. None of above
Q 18 is a methods commonly used to graft watermelon and cucumber.	1. Approach (Tongue)	2. Hole Insertion
	3. One Cotyledon (splice)	4. All of above
Q 19 is the most commonly used commercial rootstock for grafted watermelon?	1. Cucumis melo	2. <i>Momordica charantia</i>
	3. <i>Cucurbita moschata</i>	4. <i>Lagenaria siceraria</i>
Q 20 Grafted tomato transplant in from the seeding date.	1. 20 days	2. 40 days
	3. 50 days	4. 30 days
Q 21 Why use grafted tomatoes?	1. Resistance to soil-borne diseases	2. Resistance to pests
	3. Resistance to nematodes	4. All of above
Q 22 For grafts to be successful the rootstock and scion should be from.....	1. Closely related plant species	2. Season
	3. Temperature	4. All of above
Q 23 What is rootstock	1. Upper part of grafting	2. Lower part of grafting
	3. Middle part of grafting	4. None of above
Q 24 is commercial root stock used in solanaceous crops.	1. <i>Solanum torvum</i>	2. <i>Solanum nigrum</i>
	3. <i>Solanum indicum</i>	4. <i>Solanum khasianum</i>
Q 25 Important feature of Tomato rootstock <i>Solanum pimpinellifolium</i> use for grafting.	1. Resistance to nematodes	2. Resistance to pests
	3. Salt tolerance	4. Resistance to soil-borne diseases
Q 26 Union of rootstock and scion is known as	1. Layering	2. Grafting
	3. Cutting	4. Shooting
Q 27 In tomatoes continue to growth, flower, and fruit setting is known as	1. In determinant	2. Determinant
	3. Common tomato	4. None of above
Q 28 In India, vegetable grafting work was first started in	1. IARI, New Delhi	2. ICAR, New Delhi
	3. IIVR, Varanasi	4. IIHR Bengaluru
Q 29 crop imparts salt, alkalinity and flooding tolerance and improves water use efficiency in watermelon	1. Cucumber	2. Musk melon
	3. Bottle gourd	4. Bitter gourd
Q 30 In bitter gourd grafting method commonly used	1. Cleft	2. Splice Grafting
	3. Hole insertion and Tongue method	4. Tongue and Cleft methods

K. K. Wagh College of Agriculture, Nashik
Department of Horticulture
Certificate course in '**Vegetable Grafting: Concept and Application**'
Academic Year 2022-23

Answer Sheet

1	2. A process by which 2 different plants are united so that they grow as one
2	1. Cambium
3	2. <i>Solanum lycopersicum</i>
4	3. Indian Institute of Vegetable Research
5	4. Japan
6	4. All
7	2. Resistant to root knot nematode
8	2. Tube grafting
9	3. Cucurbits
10	1. Tomato
11	1. 25-30°C
12	3. 85- 90 % RH with low light intensity
13	2. Long
14	1. IIVR, Varanasi
15	3. Slice Grafting
16	1. Upper part of grafting
17	2. Whip and Tongue Grafting
18	4. All of above
19	3. <i>Cucurbita moschata</i>
20	2. 40 days
21	4. All of above
22	1. Closely related plant species
23	2. Lower part of grafting
24	1. <i>Solanum torvum</i>
25	3. Salt tolerance
26	2. Grafting
27	1. In determinant
28	4. IIHR Bengaluru
29	3. Bottle gourd
30	3. Hole insertion and Tongue method



K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code:11135 AISHE Code: C-50690

☎: (0253)2555221, 255522 ✉ - principal-bscaagri@kkwagh.edu.in 🌐 https://agri-bsc.kkwagh.edu.in

Department of Horticulture
Certificate course in '**Vegetable Grafting: Concept and Application**'
Academic Year 2022-23
Exam Block Report

Class- Final Year

Date- 21/03/2023

Subject: Theory Paper of Vegetable Grafting: Concept and Application course

Block no: 02

SR NO	REGISTRATION NO	NAME OF STUDENT	SIGN
1	AKN-2019/002	Aher Ajinkya Vijay	Ajinkya
2	AKN-2019/007	Awari Nutan Kailas	Nutan
3	AKN-2019/009	Bangar Anushka Balkrishna	Anushka
4	AKN-2019/010	Bankar Vaishnavi Keshav	Vaishnavi
5	AKN-2019/011	Bhadane Anurag Raju	Anurag
6	AKN-2019/013	Bhadange Rushikesh Sanjay	Rushikesh
7	AKN-2019/018	Chaudhari Pratik Sopan	Pratik S.S.C
8	AKN-2019/020	Chinchole Sumit Sharad	Sumit
9	AKN-2019/025	Deshmukh Akash Pradip	Akash
10	AKN-2019/027	Deshmukh Mrunal Vasant	Mrunal
11	AKN-2019/036	Gadekar Harshad Anil	Harshad
12	AKN-2019/038	Gaikwad Prachi Sanjay	Prachi
13	AKN-2019/039	Gaikwad Rahul Dnyandeo	Rahul
14	AKN-2019/047	Gatkal Aditya Vinayak	Aditya
15	AKN-2019/052	Ghongade Swapnil Balasaheb	Swapnil
16	AKN-2019/055	Jadhav Abhiraj Ramrao	Abhiraj
17	AKN-2019/056	Jadhav Hemant Madhukar	Hemant
18	AKN-2019/063	Kadam Vedant Prakash	V. Kadam

Total no of student: 18
No of student present: 18
No of students absent: 00

Name and Sign of Jr. Supervisor

(Dr. P. P. Jadhav)

Name and Sign of Sr. Supervisor

(Dr. S. S. Borhate)





K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135 AISHE Code: C-50690

☎: (0253)2555221, 255522 ☑ - principal-bscagri@kkwagh.edu.in 🌐 <https://agri-bsc.kkwagh.edu.in>

Department of Horticulture

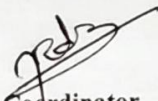
Certificate course in
'Vegetable Grafting: Concept and Application'
Academic Year 2022-23

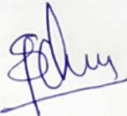
Exam Time Table


All enrolled students of the Certificate Course are hereby informed that for the academic year 2022-23, the Certificate Course on 'Vegetable Grafting: Concept and Application' has been completed. The examination for this certificate course is scheduled to be conducted on 21/03/2023. Therefore, all students are required to be present without exception.

Note: Time Table is as follow

Sr no	Date	Time	Certificate course subject
1	21/03/2023	01:00 to 02:00 pm	Theory exam: Vegetable Grafting: Concept and Application course
2		02:00 to 05:00 pm	Practical Exam: Vegetable Grafting: Concept and Application course


Course Coordinator


Exam Incharge


PRINCIPAL
K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik



K. K. Wagh College of Agriculture, Nashik
Department of Horticulture
 Certificate course in 'Vegetable Grafting: Concept and Application'
 Academic Year 2022-23

THEORY EXAMINATION

Class:	Final year.	Semester :	VIII th
Day & Date:	21-3-2023	Time:	10-11 am
Subject:	Horticulture.	Marks:	30 marks.
Name of student:	Gatkal Aditya Vinayak	Registration no:	AKN-2019/047

Multiple Choice Questions

24
30

Q 1. What is Grafting?	
<input checked="" type="checkbox"/> 1. A process by which 3 different plants are united	<input checked="" type="checkbox"/> 2. A process by which 2 different plants are united so that they grow as one
<input type="checkbox"/> 3. A process by which a plants roots are above ground	<input type="checkbox"/> 4. A process by which a plant cannot grow
Q 2 In grafting good care has to be used to match which layer of the scion and rootstock?	
<input checked="" type="checkbox"/> 1. Cambium	<input type="checkbox"/> 2. Scion
<input type="checkbox"/> 3. Root	<input type="checkbox"/> 4. Top
Q 3 Botanical Name of tomato is	
<input checked="" type="checkbox"/> 1. <i>Lycopersicon erecta</i>	<input type="checkbox"/> 2. <i>Solanum lycopersicum</i>
<input checked="" type="checkbox"/> 3. <i>Lycopersicon esculata</i>	<input checked="" type="checkbox"/> 4. <i>Lycopersicon esculentus</i>
Q 4 What is abbreviation IIVR	
<input checked="" type="checkbox"/> 1. Indian Institute of Vine Crop Research	<input type="checkbox"/> 2. Indian Institution of Various Resources
<input checked="" type="checkbox"/> 3. Indian Institute of Vegetable Research	<input type="checkbox"/> 4. Indian Institute of Variegated Crops Res.
Q 5 The raising of grafted plants of vegetables was first initiated in which country	
<input checked="" type="checkbox"/> 1. UK	<input type="checkbox"/> 2. India
<input type="checkbox"/> 3. Denmark	<input checked="" type="checkbox"/> 4. Japan
Q 6 What is object of Vegetable Grafting	
<input checked="" type="checkbox"/> 1. To develop plant resistance to disease and pests	<input type="checkbox"/> 2. To improve quality
<input checked="" type="checkbox"/> 3. To converting poor plants into more desirable one.	<input checked="" type="checkbox"/> 4. All
Q 7 Important feature of Brinjal rootstock <i>Solanum intergrifolium</i> use for grafting	
<input type="checkbox"/> 1. Tolerance to cold	<input checked="" type="checkbox"/> 2. Resistant to root knot nematode
<input type="checkbox"/> 3. High temperature tolerance	<input type="checkbox"/> 4. Resistance to Fusarium wilt
Q 8 Vegetable grafting method commonly use in solanaceous	
<input checked="" type="checkbox"/> 1. Slant grafting	<input checked="" type="checkbox"/> 2. Tube grafting
<input type="checkbox"/> 3. Hole Insertion Method	<input type="checkbox"/> 4. Cleft grafting
Q 9 Fusarium wilt of which crops are managed by grafting techniques.	
<input type="checkbox"/> 1. Solaneous crops	<input type="checkbox"/> 2. Cole crops
<input checked="" type="checkbox"/> 3. Cucurbits	<input type="checkbox"/> 4. None of above
Q 10 Example of heat sensitive crop	
<input checked="" type="checkbox"/> 1. Tomato	<input type="checkbox"/> 2. Cucumber
<input type="checkbox"/> 3. Chilli	<input type="checkbox"/> 4. Brinjal
Q 11 Optimum temperature range for vegetable grafting is	
<input type="checkbox"/> 1. 25-30°C	<input checked="" type="checkbox"/> 2. 20-25°C
<input type="checkbox"/> 3. 35-40°C	<input type="checkbox"/> 4. 15-20°C
Q 12 Ideal condition for vegetable grafting is.....	
<input checked="" type="checkbox"/> 1. 75- 80 % RH with high light intensity	<input type="checkbox"/> 2. 80- 85 % RH with medium light intensity
<input checked="" type="checkbox"/> 3. 85- 90 % RH with low light intensity	<input type="checkbox"/> 4. None of above
Q 13 Root stock seedling at a first true leaf stage the..... hypocotyl are desirable	
<input type="checkbox"/> 1. Short	<input checked="" type="checkbox"/> 2. Long
<input type="checkbox"/> 3. Medium	<input type="checkbox"/> 4. Pseudo short

Q 14 Who has made a successful attempt to produce Brimato.	
✓ 1. IIVR, Varanasi	3. IARI, New Delhi
2. IIHR, Bangalore	4. None of above
Q 15 Most suitable grafting method in tomato is	
1. Tongue Grafting	2. Wedge Grafting
✓ 3. Slice Grafting	4. Hole Insertion Method
Q 16 What is Scion	
✓ 1. Upper part of grafting	2. Lower part of grafting
3. Middle part of grafting	4. None of above
Q 17 What is the most successful grafting technique?	
1. Bench grafting	✓ 2. Whip and Tongue Grafting
3. Slant Grafting	4. None of above
Q 18 is a methods commonly used to graft watermelon and cucumber.	
1. Approach (Tongue)	2. Hole Insertion
3. One Cotyledon (splice)	✓ 4. All of above
Q 19 is the most commonly used commercial rootstock for grafted watermelon?	
1. Cucumis melo	2. <i>Momordica charantia</i>
✓ 3. <i>Cucurbita moschata</i>	4. <i>Lagenaria siceraria</i>
Q 20 Grafted tomato transplant in from the seeding date.	
1. 20 days	✓ 2. 40 days
3. 50 days	4. 30 days
Q 21 Why use grafted tomatoes?	
1. Resistance to soil-borne diseases	✓ 2. Resistance to pests
3. Resistance to nematodes	4. All of above
Q 22 For grafts to be successful the rootstock and scion should be from.....	
✓ 1. Closely related plant species	2. Season
3. Temperature	4. All of above
Q 23 What is rootstock	
1. Upper part of grafting	✓ 2. Lower part of grafting
3. Middle part of grafting	4. None of above
Q 24 is commercial root stock used in solanaceous crops.	
✓ 1. <i>Solanum torvum</i>	✓ 2. <i>Solanum nigrum</i>
3. <i>Solanum indicum</i>	4. <i>Solanum khasianum</i>
Q 25 Important feature of Tomato rootstock <i>Solanum pimpinellifolium</i> use for grafting.	
✓ 1. Resistance to nematodes	2. Resistance to pests
3. Salt tolerance	4. Resistance to soil-borne diseases
Q 26 Union of rootstock and scion is known as	
1. Layering	✓ 2. Grafting
3. Cutting	4. Shooting
Q 27 In tomatoes continue to growth, flower, and fruit setting is known as	
✓ 1. Indeterminant	2. Determinant
3. Common tomato	4. None of above
Q 28 In India, vegetable grafting work was first started in	
1. IARI, New Delhi	2. ICAR, New Delhi
✓ 3. IIVR, Varanasi	4. IIHR Bengaluru
Q 29 crop imparts salt, alkalinity and flooding tolerance and improves water use efficiency in watermelon	
✓ 1. Cucumber	2. Musk melon
3. Bottle gourd	4. Bitter gourd
Q 30 In bitter gourd grafting method commonly used	
1. Cleft	2. Splice Grafting
✓ 3. Hole insertion and Tongue method	4. Tongue and Cleft methods



K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code:11135 AISHE Code: C-50690

☎: (0253)2555221, 255522 ✉ - principal-bscagri@kkwagh.edu.in 🌐 <https://agri-bsc.kkwagh.edu.in>

Department of Horticulture

Certificate course in '**Vegetable Grafting: Concept and Application**'
Academic Year 2022-23

Report

K. K. Wagh Education Society's K. K. Wagh College of Agriculture, Saraswatinagar, Nashik which provide education in agriculture at U.G. level students. College has to decide introduce new Certificate Course in '**Vegetable Grafting: Concept and Application**'. Total 18 students are enrolled from department of Horticulture. Due to this certificate course in '**Vegetable Grafting: Concept and Application**' Students get more knowledge of different type of vegetable grafting and in application in agriculture to improve quality and quantity of vegetable produce.

Course outcome

- 1) Gain awareness of historical and current perspectives of vegetable grafting.
- 2) Perform various vegetable propagation methods.
- 3) Acquire knowledge on abiotic stress tolerance in vegetables through grafting technology.
- 4) Understand the role of vegetable grafting in addressing biotic stresses.
- 5) Explore methods for addressing nematode problems through vegetable grafting.
- 6) Examine the commercial aspects of vegetable grafting.

Students are able to understand advance methods of vegetable grafting and its application in Agriculture. It helps in improve their vegetable grafting skill and build self-confidence. Student get understand several factors which affect the vegetable crop growth specially biotic and abiotic. This will help to improve their Problem solving skill. Students understand that Grafting promises to be an effective alternative tool against various biotic and abiotic stresses; which has also emerged as an environment-friendly and climate resilient approach. This course also helps to motivate students to improve their entrepreneurship skill. In academic year 2022-23 eighteen students are enrolled for this certificate course. Course structure had been divided into theory and theory practical. Theory has 30 marks while theory practical has 20 marks weightage examination has been conducted for total 50 marks. Duration for this certificate course is 13/03/2023 to 18/03/2023 (Total 36 hrs.). The students





K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135 **AISHE Code: C-50690**


☎: (0253)2555221, 255522 ✉ - principal-bscagri@kkwagh.edu.in 🌐 <https://agri-bsc.kkwagh.edu.in>

who successfully completed the certificate course were given a certificate as appreciation by the college.

Course coordinator is Prof. Y. R. Kadam and member for this certificate course are, Prof. A. C. Jadhav, Prof. S. G. Thakare, Prof. T. B. Ugale and Prof. S.K. Ahirrao.


Course Coordinator




Principal
K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik



K K Wagh Education Society's

K K WAGH COLLEGE OF AGRICULTURE

(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)

Saraswatinagar, Panchavati, Nashik - 422 003

Certificate

This is to certify that Mr./Ms. Aditya Vinayak Gatkhal

Class Final yr has completed Certificate Course on Vegetable Grafting:

Concept & Application from 18/3/2023 to 18/3/2023 organized by


Department of Horticulture in academic year 2022-23

Date : 01/04/2023

Place : Nashik


Course Coordinator




Principal
K K Wagh College of Agriculture
Nashik

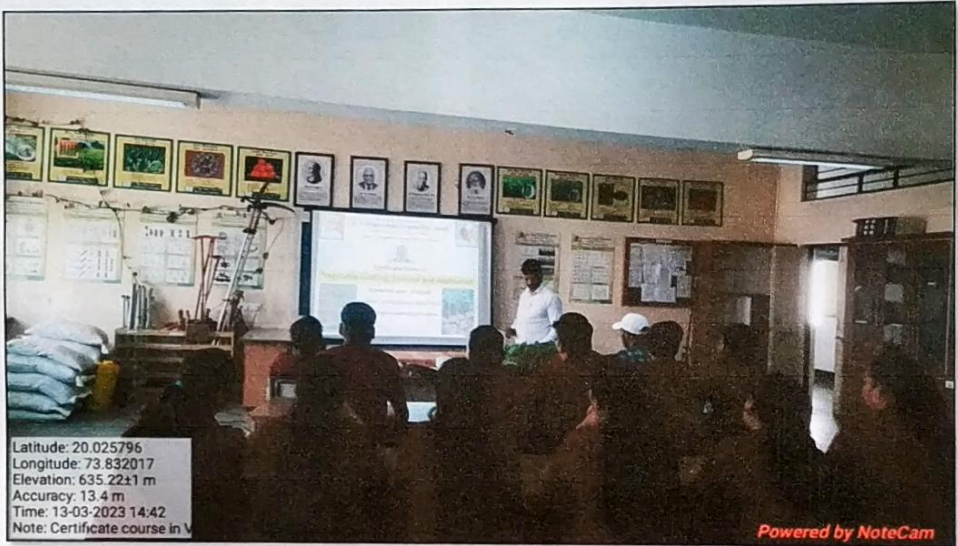


K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135 AISHE Code: C-50690

☎: (0253)2555221, 255522 ✉ - principal-bscagri@kkwagh.edu.in 🌐 <https://agri-bsc.kkwagh.edu.in>

Department of Horticulture
Certificate course in '**Vegetable Grafting: Concept and Application**'
Academic Year 2022-23

PHOTO GALLERY





K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135 AISHE Code: C-50690

☎: (0253)2555221, 255522 ☒ - principal-bscagri@kkwagh.edu.in 🌐 <https://agri-bsc.kkwagh.edu.in>



Students performing practicals of Vegetable grafting

