

Submit originals (including syllabus) and one copy and electronic copy to the Faculty Senate Office  
See <http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures/> for a complete description of the rules governing curriculum & course changes.

**CHANGE COURSE (MAJOR) and DROP COURSE PROPOSAL**  
Attach a syllabus, except if dropping a course.

**SUBMITTED BY:**

Department	High Latitude Agriculture	College/School	SNRE
Prepared by	Patricia S. Holloway	Phone	907-474-6686
Email Contact	psholloway@alaska.edu	Faculty Contact	Patricia S. Holloway

**1. COURSE IDENTIFICATION: As the course now exists.**

Dept	NRM	Course #	215	No. of Credits	3
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<b>COURSE TITLE</b>	Plant Propagation
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**2. ACTION DESIRED:**  Check the changes to be made to the existing course.

Change Course	<input checked="" type="checkbox"/>	If Change, indicate below what is changing.	Drop Course	<input type="checkbox"/>
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<b>NUMBER</b>	<input checked="" type="checkbox"/>	<b>TITLE</b>	<input checked="" type="checkbox"/>	<b>DESCRIPTION</b>	<input checked="" type="checkbox"/>
<b>PREREQUISITES*</b>	<input checked="" type="checkbox"/>	<b>FREQUENCY OF OFFERING</b>			<input checked="" type="checkbox"/>

\*Prerequisites will be required before a student is allowed to enroll in the course.

<b>CREDITS (including credit distribution)</b>	0+0+3	<b>COURSE CLASSIFICATION</b>	NRM 152
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<b>ADD A STACKED LEVEL (400/600)</b> Include syllabi.		Dept.		Course #	
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**How will the two course levels differ from each other? How will each be taught at the appropriate level?:**

Stacked course applications are reviewed by the (Undergraduate) Curricular Review Committee and by the Graduate Academic and Advising Committee. Creating two different syllabi—undergraduate and graduate versions—will help emphasize the different qualities of what are supposed to be two different courses. The committees will determine: 1) whether the two versions are sufficiently different (i.e. is there undergraduate and graduate level content being offered); 2) are undergraduates being overtaxed?; 3) are graduate students being undertaxed? In this context, the committees are looking out for the interests of the students taking the course. Typically, if either committee has qualms, they both do. More info online – see URL at top of this page.

<b>ADD NEW CROSS-LISTING</b>		Dept. & No.		Requires approval of both departments and deans involved. Add lines at end of form for additional signatures.
<b>STOP EXISTING CROSS-LISTING</b>		Dept. & No.		Requires notification of other department(s) and mutual agreement. Attach copy of email or memo.
<b>OTHER (specify)</b>				

**3. COURSE FORMAT**

NOTE: Course hours may not be compressed into fewer than three days per credit. Any course compressed into fewer than six weeks must be approved by the college or school's curriculum council and the appropriate Faculty Senate curriculum committee. Furthermore, any core course compressed to less than six weeks must be approved by the Core Review Committee.

<b>COURSE FORMAT:</b> (check all that apply)	<input checked="" type="checkbox"/>	1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>	6 weeks to full semester
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<b>OTHER FORMAT (specify all that apply)</b>	
Mode of delivery (specify lecture, field trips, labs, etc.)	Supervised practicum

**4. COURSE CLASSIFICATIONS:** (undergraduate courses only. Use approved criteria found in Chapter 12 of the curriculum manual. If justification is needed, attach separate sheet.)

H = Humanities		S = Social Sciences	
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Will this course be used to fulfill a requirement for the baccalaureate core?	YES		NO	<input checked="" type="checkbox"/>
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IF YES\*, check which core requirements it could be used to fulfill:

O = Oral Intensive,		W = Writing Intensive, *Format 7		X = Baccalaureate Core	
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*Format 6 also submitted		submitted		
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4.A Is course content related to northern, arctic or circumpolar studies? If yes, a "snowflake" symbol will be added in the printed Catalog, and flagged in Banner.

YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
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5. COURSE REPEATABILITY:

Is this course repeatable for credit?	YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>
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Justification: Indicate why the course can be repeated (for example, the course follows a different theme each time).

How many times may the course be repeated for credit?		TIMES
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If the course can be repeated with variable credit, what is the maximum number of credit hours that may be earned for this course?		CREDITS
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6. COMPLETE CATALOG DESCRIPTION including dept., number, title, credits, credit distribution, cross-listings and/or stacking, clearly showing the changes you want made. (Underline new wording strike-through old wording and use complete catalog format including dept., number, title, credits and cross-listed and stacked.)

Example of a complete description:

PS F450 Comparative ~~Aboriginal~~ Indigenous Rights and Policies (s)

3 Credits

Offered As Demand Warrants

~~Case-study Comparative approach in assessing Aboriginal to analyzing Indigenous~~ rights and policies in different nation-state systems. ~~Seven Aboriginal situations~~ Multiple countries and specific policy developments examined for factors promoting or limiting self-determination. Prerequisites: Upper division standing or permission of instructor. (Cross-listed with ANS F450.) (3+0)

~~NRM 215~~ 152 Plant Propagation Practicum

~~3-credits, 1 credit~~

~~Offered fall, spring, summer~~

Principles and practices of plant propagation useful in horticulture, botany, forestry, agronomy, revegetation and land reclamation projects and plant research. ~~Emphasis on both macro and micro propagation (tissue culture) of Alaska native plants by seeds, spores and vegetative propagation such as cuttings. The practicum will emphasize hands on applications of propagation methods for commercial, educational and research applications. Emphasis will include horticultural seed production, landscape seeding and restoration practices, intermittent mist propagation systems, spore propagation and commercial micro-propagation (tissue culture). Prerequisites: NRM F211 or Intro to Biology or Botany or permission of the instructor (2+3)~~ Prerequisites: NRM 150 and 151 (0+0+3).

7. COMPLETE CATALOG DESCRIPTION AS IT SHOULD APPEAR AFTER ALL CHANGES ARE MADE:

NRM 152 Plant Propagation Practicum

1 credit

Offered: Fall, Spring, Summer

Methods of plant propagation useful in horticulture, botany, forestry, agronomy, revegetation and land reclamation projects and plant research. The practicum will emphasize hands on applications of propagation methods for commercial, educational and research applications. Emphasis will include horticultural seed production, landscape seeding and restoration practices, intermittent mist propagation systems, spore propagation and commercial micro-propagation (tissue culture). Prerequisites: NRM 150 and 151 (0+0+3).

8. **GRADING SYSTEM:** Specify only one.

LETTER:	<input checked="" type="checkbox"/>	PASS/FAIL:	<input type="checkbox"/>
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9. **ESTIMATED IMPACT**

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

There should be no impact on budget, facilities/space, faculty in Fairbanks. It will require use of the SNRAS Palmer Center for Sustainable Living facilities in laboratories and greenhouses that currently are not being used. Discussions for use have already occurred with manager, Dr. Norman Harris. It will require use of housing facilities for Fairbanks faculty for one week. This course is one of three that will replace NRM 215. It is being split into three components mostly for distance/online delivery and so that the practicum can be offered on site in Fairbanks and Palmer and perhaps other rural locations.

10. **LIBRARY COLLECTIONS**

Have you contacted the library collection development officer (*kljensen@alaska.edu*, 474-6695) with regard to the adequacy of library/media collections, equipment, and services available for the proposed course? If so, give date of contact and resolution. If not, explain why not.

No	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	The course has been offered for more than 20 years. Library/media collections and equipment have been well vetted.
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11. **IMPACTS ON PROGRAMS/DEPTS:**

What programs/departments will be affected by this proposed action?  
Include information on the Programs/Departments contacted (e.g., email, memo)

This course is not required by any degree program including NRM, but it can be used as a lower division elective in NRM. It can also be taken as a general elective in any degree program. It may also be offered in the revised AAS Renewable Resources degree which is currently being discussed.

12. **POSITIVE AND NEGATIVE IMPACTS**

Please specify **positive and negative** impacts on other courses, programs and departments resulting from the proposed action.

Recent interest by non-degree seeking students and Renewable Resources Associates degree students (CRCD) would allow the delivery of this course to be statewide. Course delivery would be 1) synchronous campus class offered at different times at the Fairbanks and Palmer sites. It may be expanded to other rural campuses in the future pending availability of facilities. There would be no impact on changing it from a 200 level to a 100 level in NRM since it would continue to be a lower division elective. It would simply be more accessible to a broader audience.

13. **JUSTIFICATION FOR ACTION REQUESTED**

The purpose of the department and campus-wide curriculum committees is to scrutinize course change and new course applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If you ask for a change in # of credits, explain why; are you increasing the amount of material covered in the class? If you drop a prerequisite, is it because the material is covered elsewhere? If course is changing to stacked (400/600), explain higher level of effort and performance required on part of students earning graduate credit. Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the course is not compromised as a result.

This course will be one of three individual classes in plant propagation that will be roughly equivalent to the original course except offered at an introductory level. We conducted a survey of horticulture businesses in spring 2013: (40 surveys sent statewide, 345 survey respondents). The response was overwhelmingly positive for science-based training in a wide array of horticulture/agronomy/soils topics. Our goal is to offer the two lecture classes (NRM 150, 151) as an elective for NRM majors but also to reach a statewide audience through a variety of distance delivery tools. The practicum cannot be offered online, so we plan to offer it at least in Palmer and Fairbanks, and perhaps other locations if the supplies/facilities are available. Students would then have to travel to Fairbanks or Palmer if they wanted the one-week intensive practical experience, but at least the knowledge base would be available via lectures in 150- 151. By uncoupling the lectures and labs as originally offered, we can at least provide the information our non campus students have requested; by offering a one-week intensive practicum, students can have the option of coming to campus. We will offer techniques-type videos in 150 and 151 so similar information is available to all students. It just won't be hands on. Plant propagation is a techniques class that forms the basis for many other advanced classes in plant science. We wish to provide these tools (with an emphasis on Alaska-specific plants taught nowhere else in the world) at an introductory level, and in the future, couple it with an

advanced class for students who wish to explore plant propagation at a greater depth. This advanced class would be solely on campus. Our school is also working with CRCD on a re-vamping of the Renewable Resources Associates Degree. We will offer this class as an elective in that degree. Our audience will expand to non-degree seeking students statewide, AAS degree students and NRM 4 year degree students. Although the lectures will be available through synchronous and asynchronous lectures, the labs are hands on. Classes will be offered concurrently with the lectures.

*See attached signatures*

**APPROVALS: (Additional signature blocks may be added as necessary.)**

	Date
--	------

Signature, Chair, Program/Department of:

	Date
--	------

Signature, Chair, College/School Curriculum Council for:

	Date
--	------

Signature, Dean, College/School of:

**Offerings above the level of approved programs must be approved in advance by the Provost:**

	Date
--	------

Signature of Provost (if applicable)

**ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE.**

	Date
--	------

Signature, Chair

Faculty Senate Review Committee:  Curriculum Review  GAAC

Core Review  SADAC

**ADDITIONAL SIGNATURES: (As needed for cross-listing and/or stacking; add more blocks as necessary.)**

	Date
--	------

Signature, Chair, Program/Department of:

	Date
--	------

Signature, Chair, College/School Curriculum Council for:

	Date
--	------

Signature, Dean, College/School of:

Note: If removing a cross-listing, attach copy of email or memo to indicate mutual agreement of this action by the affected department(s). If degree programs are affected, a Format 5 program change form must also be submitted.

**APPROVALS: (Additional signature blocks may be added as necessary.)**

<i>Abdour F. F. F.</i>	Date	10/2 2013
Signature, Chair, Program/Department of: <i>High Latitude Agriculture</i>		

<i>RL</i>	Date	10/4/13
Signature, Chair, College/School Curriculum Council for: <i>SWAT</i>		

<i>J. Gaw</i>	Date	10/4/13
Signature/Dean, College/School of:		

**Offerings above the level of approved programs must be approved in advance by the Provost:**

	Date	
Signature of Provost (if applicable)		

**ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE.**

	Date	
Signature, Chair		
Faculty Senate Review Committee: <input type="checkbox"/> Curriculum Review <input type="checkbox"/> GAAC		
<input type="checkbox"/> Core Review <input type="checkbox"/> SADAC		

**ADDITIONAL SIGNATURES: (As needed for cross-listing and/or stacking; add more blocks as necessary.)**

	Date	
Signature, Chair, Program/Department of:		

	Date	
Signature, Chair, College/School Curriculum Council for:		

	Date	
Signature, Dean, College/School of:		

Note: If removing a cross-listing, attach copy of email or memo to indicate mutual agreement of this action by the affected department(s). If degree programs are affected, a Format 5 program change form must also be submitted.




Office of the Dean & Director  
P.O. Box 757140  
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99775-7140  
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Fax: (907) 474-6567  
email: uaf-snrns-afes@alaska.edu

**School of Natural Resources and Agricultural Sciences**  
**Agricultural and Forestry Experiment Station**

**M E M O R A N D U M**

**TO:** Susan Henrichs, Provost

**FROM:** Stephen D. Sparrow,  Interim Dean and Director  
School of Natural Resources and Agricultural Sciences  
Agricultural and Forestry Experiment Station

**DATE:** September 27, 2013

**RE:** Signature Authority

I will be in Girdwood for the 8<sup>th</sup> Circumpolar Agricultural Conference/University of the Arctic Inaugural Food Summit meetings September 29-October 3, and Palmer October 4. During my absence, Professor John Yarie will have signature authority for all routine paperwork for the School of Natural Resources and Agricultural Sciences and Agricultural and Forestry Experiment Station.

**ATTACH COMPLETE SYLLABUS (as part of this application).** This list is online at:  
<http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/uaf-syllabus-requirements/>  
The Faculty Senate curriculum committees will review the syllabus to ensure that each of the items listed below are included. If items are missing or unclear, the proposed course (or changes to it) may be denied.

#### **SYLLABUS CHECKLIST FOR ALL UAF COURSES**

During the first week of class, instructors will distribute a course syllabus. Although modifications may be made throughout the semester, this document will contain the following information (as applicable to the discipline):

##### **1. Course information:**

Title,  number,  credits,  prerequisites,  location,  meeting time  
(make sure that contact hours are in line with credits).

##### **2. Instructor (and if applicable, Teaching Assistant) information:**

Name,  office location,  office hours,  telephone,  email address.

##### **3. Course readings/materials:**

Course textbook title,  author,  edition/publisher.  
 Supplementary readings (indicate whether  required or  recommended) and  
 any supplies required.

##### **4. Course description:**

Content of the course and how it fits into the broader curriculum;  
 Expected proficiencies required to undertake the course, if applicable.  
 Inclusion of catalog description is *strongly* recommended, and  
 Description in syllabus must be consistent with catalog course description.

##### **5. Course Goals (general), and (see #6)**

##### **6. Student Learning Outcomes (more specific)**

##### **7. Instructional methods:**

Describe the teaching techniques (eg: lecture, case study, small group discussion, private instruction, studio instruction, values clarification, games, journal writing, use of Blackboard, audio/video conferencing, etc.).

##### **8. Course calendar:**

A schedule of class topics and assignments must be included. Be specific so that it is clear that the instructor has thought this through and will not be making it up on the fly (e.g. it is not adequate to say "lab". Instead, give each lab a title that describes its content). You may call the outline Tentative or Work in Progress to allow for modifications during the semester.

##### **9. Course policies:**

Specify course rules, including your policies on attendance, tardiness, class participation, make-up exams, and plagiarism/academic integrity.

##### **10. Evaluation:**

Specify how students will be evaluated,  what factors will be included,  their relative value, and  how they will be tabulated into grades (on a curve, absolute scores, etc.)  Publicize UAF regulations with regard to the grades of "C" and below as applicable to this course. (Not required in the syllabus, but is a convenient way to publicize this.) Link to PDF summary of grading policy for "C":

[http://www.uaf.edu/files/uafgov/Info-to-Publicize-C\\_Grading-Policy-UPDATED-May-2013.pdf](http://www.uaf.edu/files/uafgov/Info-to-Publicize-C_Grading-Policy-UPDATED-May-2013.pdf)

##### **11. Support Services:**

Describe the student support services such as tutoring (local and/or regional) appropriate for the course.

**12. Disabilities Services:** Note that the phone# and location have been **updated**. <http://www.uaf.edu/disability/> The Office of Disability Services implements the Americans with Disabilities Act (ADA), and ensures that UAF students have equal access to the campus and course materials.

State that you will work with the Office of Disabilities Services (208 WHITAKER BLDG, 474-5655) to provide reasonable accommodation to students with disabilities.

5/21/2013

**NRM 152**  
**Plant Propagation Practicum**

1 credit practicum (0+0+3)

Prerequisites: NRM 150 and 151

Location: West Ridge Horticulture Greenhouse (Arctic Health) or Palmer Center for Sustainable Living

Time: TBA (1 week intensive practicum, 40 total contact hours)

Instructor: Dr. Patricia S. Holloway

Office: 104AH Arctic Health Building; Georgeson Botanical Garden (Fairbanks Experiment Farm)

Office hours: TBA

Telephone: (907)474-6686

Email: [psholloway@alaska.edu](mailto:psholloway@alaska.edu)

Textbook: Beyl, C. and R. Trigiano. 2008. Plant Propagation Concepts and Laboratory exercises. CRC Press, New York.

**Course Description:**

Methods of plant propagation useful in horticulture, botany, forestry, agronomy, revegetation and land reclamation projects and plant research. The practicum will emphasize hands on applications of propagation methods for commercial, educational and research applications. Emphasis will include horticultural seed production, landscape seeding and restoration practices, intermittent mist propagation systems, spore propagation and commercial micro-propagation (tissue culture).

**Prerequisites: NRM 150 and 151 (0+0+3).**

**Goals and Objectives:**

The propagation of plants by seeds, cutting, grafting and more is the foundation of plant-based natural resources management. This course is part three of a three-part series exploring the theory and methods of propagating plants. The Practicum is designed to provide hands on practical experience with the tools, equipment, and specialized methods used in the science and industry of plant propagation.

**Student Learning Outcomes:**

It is expected that you will become familiar with the practice of plant propagation sufficient for entry level work in a commercial greenhouse/nursery or fields that require information on revegetation and reclamation such as mining, highway and forest revegetation; propagation of plants for home and garden use; and sharing propagation information with others. You will learn about the specialized equipment used in plant propagation such as seed germination testing equipment, seed harvesting, cleaning and processing equipment, intermittent mist propagation benches, and the laboratory equipment and methods used in micro-propagation (tissue culture).



**Instructional Methods:** The course will be a one-week intensive, hands on practicum that will take place in a laboratory, outdoors and in a greenhouse. It will involve:

- 1) Short introductory powerpoint lectures,
- 2) Audio/video demonstrations where the equipment is not locally available,
- 3) Field trips to commercial businesses
- 4) Hands on application of propagation methods in greenhouse and field as both teams and individually.

**Evaluations:**

1.	5 quizzes on methods (10 each)	50 points	A=90-100%
2.	Propagation methods paper	100	B=80-89%
3.	Practicum report	100	C=70-79%
			D= 60-69%
4.	Participation	50	F= below 60%
		300	

Quizzes vocabulary quizzes: (10 points each, 50 points) Unannounced quizzes/puzzles/short answers during the practicum to test knowledge attainment and understanding of specific techniques.

Propagation methods paper (100 points) Conduct independent research on the commercial propagation methods of a plant of your choice that is used in Alaska for horticulture, agronomy, natural resource revegetation, wildland restoration, and others. Minimum 5 pages plus references. A required citation style will be provided.

Practicum report: Develop a handbook of propagation methods demonstrated in this class that includes an overview of the methods, materials needed, safety concerns, a step-by-step guide of methods, anticipated results, and timeline.

Participation: You will receive 5 points for attending each half-day session and actively participating in the activities.

**Course Policies:**

Plagiarism and Academic Honesty

Plagiarism is using what another person has developed as your own words or thoughts.

Plagiarism is never acceptable. UAF requires students to conduct themselves honestly and responsibly and to respect the rights of others. Cheating, plagiarism or other forms of academic dishonesty may result in disciplinary action and sanctions. The UAF Student Code of Conduct is adhered to in this course.

**Disability Services**

The UAF Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course

materials. Your instructor will work with the Office of Disability Services (208 WHIT, 907-474-5655) to provide reasonable accommodation to students with disabilities.

**UAF Disability Services for Distance Students**

UAF has a Disability Services office that operates in conjunction with the College of Rural and Community Development (CRCD) campuses and UAF Center for Distance Education (CDE). Disability Services, a part of UAF Center for Health and Counseling, provides academic accommodations to enrolled students who are identified as being eligible for these services. If you believe you are eligible, please visit the Office of Disability Services on the web or contact a student affairs staff person at your nearest local campus. You can also contact Disability Services on the Fairbanks Campus at (907) 474-5655, [fydso@uaf.edu](mailto:fydso@uaf.edu).

Make up quizzes and assignments will be given only in emergency situations (Note from Dean, Physician, Employer).

Incomplete grades: Incompletes will be given only in the case of family or medical emergencies or circumstances beyond your control. You must have a C- or better average in the class, have attended all of the classes and labs, and shown good progress toward completing the course BEFORE the emergency in order to receive an incomplete grade.

Audits: Auditing the class is accepted but not recommended. You must complete all work, including the exams, readings and lab reports. They simply won't be graded. If exams, etc. are not completed, the instructor will initiate a withdrawal from the class.

Spelling and Grammar: On all written papers including lab reports and exams, you will lose points for poor spelling and grammar.

## **TENTATIVE LAB SCHEDULE (the order may change depending on plant availability)**

The course will consist of 10- half day sessions (4 hours each) in which the following will be introduced as hands on activities:

1. Seed cleaning, processing, testing and germination using threshers, clippers, air seed cleaners, gravity separators; setting up a germination test
2. Seed stratification, scarification, plug production; mechanized seeders
3. Cone seed collection and extraction in forestry, forest tree seed germination and production
4. Fern spore collection, processing, germination
5. Collecting and processing cuttings, specialized stems, stock plant production
6. Hardwood cuttings, herbaceous stem cuttings, intermittent mist propagation systems, propagation boxes
7. Leaf, leaf-bud cuttings, foliar embryos, layering, bulbs, corms, tubers, root cuttings
8. Grafting and Budding
9. Micro-propagation: Tissue culture
10. Micro-propagation: Tissue culture