حقيبة تعليمية

الحقيبة التعليمية للمشاتل – اعداد علي محي التلال – استاذ مساعد المعهد التقني الكوفة

Subject: nurseries

Dept.: plant production

First class: practical section

1ST WEEK

Propagation structure and accessories:

|  |  |  |  |
| --- | --- | --- | --- |
| 1. Glass houses | 2. lath house | 3. Plastic tunnel | 4. Hot & cold frames |

Equipment & tools used in nurseries:

|  |  |  |  |
| --- | --- | --- | --- |
| 1. structures | 2. saw | 3. humidifiers | 4. small tractors |
| 5. holders | 6. budding knives | 7. spades | 8. forks |
| 9. sieves | 10. budding & grafting machines | 11. budding tape | 12. wax |

2ND WEEK

Already given and covered in theoretical section.

3RD WEEK

Seed germination

|  |  |  |
| --- | --- | --- |
| % germination = | number of germination seed | X 100 |
| Total number of seeds sown |

Viability test: viability can be determines by several tests:

1. Direct germination which gives an indication of viability.
2. Excised embryo.
3. Tetra zoluim test.

Stratification: it is the exposure of dormant seeds to a period of chilling to enhance ripening of embryo.

Apricot seeds require 30 days Stratification at 5Co

Apple, pear seeds require 90 days Stratification at 5Co.

Stratification: it is the process of breaking, searching and soaking seeds to make seed coat permeable to water and gases.

Means of Stratification:

1. Hot water Stratification.
2. Acid S.
3. Warm water S.
4. High temperature S.
5. Mechanical S.

Seed storage:

1. Short lived.
2. Medium lived.
3. Large lived.

The main factor affects the longevity of seed storage:

1. Seed moisture content.
2. Storage temperature.

4TH WEEK: It has been covered in theoretical section.

5TH WEEK: Digging and extracting of evergreen seedling or transplant.

6TH WEEK: Practical work

7TH WEEK: it has been covered in theoretical section.

8TH WEEK: It has been covered in theoretical section.

9TH WEEK: Live demonstration must be conducted on some plant available in your institute.

10TH WEEK: As in week 9.

Theoretical section

1ST WEEK:

Nursery: It is a place where plant are propagated and managed well until transfer to the customer.

Types of nurseries:

The economic importance of nurseries

Selection of nursery site

2ND WEEK

Planning for nursery

Nursery accessories

1. Stores.
2. Cold room
3. Office and W. C.
4. Marketing area
5. Working area
6. Rooms for labor
7. Garage.

Factor affecting a sexual propagation

1. Dormancy
2. Purity
3. Viability
4. Climatic factor
5. Soil factor

5TH WEEK

Seed storage

A sexual (vegetative) propagation

Reason for using vegetative propagation

6TH WEEK

Mean of vegetative propagation

Propagation via cuttings

Types of cuttings

1. Stem cutting
2. Root cutting
3. Leaf cutting

7TH WEEK

The psychological and anatomical basis affecting the formation of root initials.

8TH WEEK

Factor affecting root formation

Auxins methods of application

9TH WEEK: Budding & Grafting

Reasons for budding & Grafting

Budding methods

Grafting methods

Factors influencing the success of budding and grafting

Effects of rootstock on scions

10TH WEEK:

Effect of scion on rootstock

Apple rootstock

1. Seedling
2. Sucker
3. Clonal

Propagation by specialized stems and roots.

List of references

1. Plant propagation, principle and practices (4th ed. By Hartmann and Kester.)
2. Introduction to Nurseries Stock (1988) lila Dic.
3. المشاتل وتكشير النبات (1991) الطبعة الثانية، د. عادل الراوي و د. علي الدوري.
4. علم فسلجة النبات (1985) د.عبد العظيم كاظم محمد.