

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

**Hanover House
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NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number- 0078202 -Session-1987-88

-Superclass- SD

-Title- PRODUCTION OF WOODY PLANTS FROM SEED

-DESCRIPTION-

Type and Purpose A specialist module concerned with the production of woody plants from seed for students involved in hardy nursery stock production including forest nurseries.

Preferred Entry Level 0068031 Plant Production from Seed
Standard Grade in Mathematics at 6

Learning Outcomes

The student should:

1. propagate a range of woody plants from seed;
2. relate intended use to speed of growth and treatment applied;
3. grow on seedlings to lining out stage;
4. lift, grade and plant seedlings/liners.

Content/
Context

Corresponding to Learning Outcomes 1-4:

1. Before embarking on the practical aspects of the module, considerable background material should be covered: seed source and provenance, dormancies - including immature embryo, epicotyl and cold temperature, bed preparation, sowing dates, sowing rates, sowing methods, sowing depths, germination tests, pest, disease and weed control, undercutting and transplanting, irrigation and top dressing.

Use of appropriate techniques for overcoming dormancy in a range of seeds. The student should be involved in as many of the topic areas listed above, in as practical a way as is possible.

Tree, seedling root stocks, shrubs and hedging plant production should be covered.

2. Seeds that would normally stay in the seedbed for one and two years should be chosen and the economics of this should be understood. Thicker sowings can be made where seedlings are transplanted at the end of the first year's growth. The significance of 'U' and '+' to demonstrate undercutting and transplanting at various stages of plant growth should be understood.
3. Routine practical work to cover watering, feeding, pest, disease and weed control and thinning as necessary.
4. Reference should be made to winches, U blades, undercutters, and at least one of these machines should be seen in operation. Lifting by hand should also be referred to.

Suggested Learning and Teaching Approaches

This is a practically based module and students should make their own notes in relation to the Learning Outcomes at each stage. Library facilities should be available to students for reference purposes.

Relating to the Learning Outcomes:

1. Seeds exhibiting a range of dormancies should be collected and tested in the appropriate manner, and grown if possible, right through to the harvesting/grading stage. For slow growing subjects seeds/seedlings sown/raised in the previous season should be used. Special seedbeds e.g. forest nurseries.

Formative assessment of seed sowing should include bed preparation, sowing accurately and evenly to specified rates, covering and labelling.

2. Students could observe plants from a range of sowing rates and subjects with different speeds of growth, and assess their growth and value.
3. Students should receive practical instruction and practice in the operations listed in content/context 3. Thereafter students should be able to report on the requirement of a range of seed beds.
4. Students should compare undercut transplanted and untreated stock of the same age, both in and out of the ground so that root systems can be examined and conclusions drawn.

Formative practical assessment of lifting, grading, bundling, labelling and preparation of delivery notes and/or invoices.

Assessment Procedures

All Learning Outcomes must be validly assessed.

The student must be informed of the tasks which contribute to summative assessment. Any unsatisfactory aspects of performance should, if possible, be discussed with the student as and when they arise.

Acceptable performance in the module will be satisfactory achievement of the performance criteria specified for each Learning Outcome.

The following abbreviations are used below:

LO Learning Outcome
IA Instrument of Assessment
PC Performance Criteria

LO1 IA Practical exercises used with observation checklist in propagation of woody plants from seed.

PC The student:

- (a) prepares the sowing area with regard to adequate tilth and even consolidation;
- (b) broadcasts/drills seed evenly at the correct density;
- (c) covers seed to correct depth with correct material;
- (d) firms surface adequately and evenly.

LO2 IA Practical exercises.

PC The student:

- (a) inspects a range of seed beds and reports on the plant density, growth and value;
- (b) for one species calculates, using trade catalogues, gross return for 0.1 hectare.

- LO3 IA Practical exercise.
- PC The student inspects a range of seed beds and makes recommendations with regard to watering, feeding, pest, disease and weed control and thinning.
- LO4 IA Practical exercises used with observation checklist in lifting, grading and planting seedlings/liners.
- PC The student:
- (a) lifts without causing undue damage to root systems;
 - (b) grades to set standards;
 - (c) bundles and labels correctly;
 - (d) heels in ensuring roots are covered;
 - (e) prepares delivery note or invoice;
 - (f) correctly spaces plants;
 - (g) leaves site clean and tidy.

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