

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

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NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number-	0078003	-Session-1987-88
-Superclass-	SB	
-Title-	AN INTRODUCTION TO CROPS AND SOILS (x¹/₂)	
-DESCRIPTION-		
Type and Purpose	A <u>general</u> module which enables the student to acquire a knowledge of the physical characteristics of the soil and how these affect the crops grown and the type of farming.	
	This module is suitable for agricultural and horticultural students and should be taught to reflect the particular interest of the student.	
Preferred Entry Level	No formal entry requirements.	
Learning Outcomes	The student should:	
	1 identify the common crops grown locally;	
	2 identify products used on farms and holdings that are produced from local farms and estates;	
	3 know the different growth habits of grass and broadleaved plants;	
	4. identify the key characteristics of field soils;	
	5. recognise situations where soil types, altitude, aspect, slope and climate limit crop production and farming practice.	

Content/
Context

Corresponding to Learning Outcomes 1-5:

1. Crops chosen should reflect the interest of the students and locally important crops.

Agricultural crops could include cereals, wheat, barley and oats; two grass species, clover, potatoes, a fodder root crop and another two crops of local importance.

Horticultural crops could include

Fruit: strawberries, raspberries and blackcurrants.

Vegetables: 3 local species.

Protected production: tomatoes, lettuce, mushroom and chrysanthemum.

Nursery stock: trees, shrubs, herbaceous plants, daffodils.

As far as is possible all crops should be seen at the seed (or transplant) seedling (or rooted transplant) vegetative and flowering (or fruiting/seedhead) stages.

2. Examples could include:

agricultural holdings-hay; silage; straw; rolled, ground and whole barley and oats; sugarbeet pulp; molasses; wet and dried grains; pot ale syrup.

horticultural holdings-straw; timber for posts construction; peat; pulverised bark; organic manure; bone meal; stone used in garden landscape work; sand used in both growing media and construction.

3. Annual, and perennial forms.
Taproot and fibrous root systems.
Tillering habit of grass-like plants.
Flowering habits and differences between crops.
Plant organs for food storage.
4. Soil type recognition by feel. Effects of soil type on water holding capacity. Drought summer; poaching by stock or machinery; east of cultivation; timing of cultivation.
5. Land capability grades.

Reasons for downgrading - wetness; gradient; climate; soil limitations; erosion susceptibility.

Suggested Learning and Teaching Approaches	Land grades to be related to types of farming practised.
	<p>Most of the work in this module should be undertaken on farm/holding visits. If possible visits should be made to typical commercial units:</p> <ul style="list-style-type: none"> - a hill farm; - a marginal land farm; - a dairy farm; - a cropping farm with cereals and potatoes. <p>Visits should be preceded by the identification of the farm/holding on the Ordnance Survey Map and on the Land Capability map. The grade of land should be ascertained. This grading should then be related to the crops grown on the farm/holding, the state of the soil and the animals kept as appropriate.</p> <p>Soil sampling with an auger is a useful aid.</p> <p>As much of the knowledge content of Learning Outcomes 1, 2 and 3 should be covered on farm/holding visits as possible. Supplement with demonstration where required.</p>
Assessment Procedures	<p>Acceptable performance in the module will be satisfactory achievement of the performance criteria specified for each Learning Outcome.</p> <p>The following abbreviations are used below:</p> <p>LO Learning Outcome IA Instrument of Assessment PC Performance Criteria</p> <p>LO1 IA Practical identification test.</p> <p>PC For agricultural students.</p> <p>The student identifies:</p> <ul style="list-style-type: none"> (a) 2 grass species at inflorescence; (b) wheat;) (c) barley) at seed and inflorescence; (d) oats;) (e) clover at seed and vegetative; (f) potatoes at tuber and vegetative;

- (g) a fodder root crop at seed, seedling and vegetative;
- (h) 2 other crops of local importance at any two stages.

PC For horticultural students.

The student correctly identifies 10 locally grown horticultural crops.

LO2 IA Practical identification test.

PC For agricultural students.

The student identifies:

- (a) whole barley
- (b) rolled barley
- (c) whole oats
- (d) rolled oats;
- (e) ground cereals;
- (f) hay;
- (g) silage;
- (h) straw;
- plus two from:
- (i) wet grains;
- (j) dried grains;
- (k) molasses;
- (i) pot ale syrup.

PC For horticultural students

The student identifies:

- (a) straw;
- (b) peat;
- (c) pulverised bark;
- (d) bone meal;
- (e) 1 organic manure;
- (f) timber used for:
 - (i) fencing posts;
 - (ii) paling;
 - (iii) construction work;
- (g) two types of local stone;
- (h) two types of sand.

LO3 IA(1) Practical identification test.

PC The student identifies correctly tap rooted, fibrous rooted plants and tillers from samples provided.

IA(2)Written graphical exercise.

PC The student given a diagram of a monocotyledonous plant, labels:

flower, leaf, stem, tiller, rhizome root.

IA(3)Short answer written test consisting of 10 questions.

PC The student:

- (a) describes plant storage in terms of:
seed, tuber, root, stem, leaf;
- (b) states 4 annuals used as farm crops
and 2 biennials used as farm crops.

Cutting score 80%.

LO4 IA Practical identification test.

PC The student identifies 4 samples of soil and relates five characteristics to each sample.

The characteristics may be from the following list:

water holding capacity;
size of particle;
earliness;
natural fertility;
ease of cultivation;
poaching;
ease of drainage.

Cutting score 70%.

LO5 IA Written exercise.

PC The student demonstrates a knowledge of soil type, altitude, aspect, slope and climate on cropping and husbandry practice.

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