YEAR 7 - Prescription

Introduction

This syllabus has been prepared for use in all of the Junior Secondary Schools in Vanuatu in both language mediums. It has its origins in the work of J.A. Sutherland for the Pacific Islands Agricultural Curriculum Development Project. It has been developed by groups of Agriculture teachers since then, in an attempt to make it more appropriate and relevant to the needs and experiences of our students. Two points should be borne in mind:

1. Individual schools should adopt their own teaching order, and the manner in which the course content is presented to students, to fit in with their individual circumstances, or to facilitate a continuity of crop production, and of learning. The teaching plan suggested in Appendix 1 is an integrated approach that has been successfully used in some schools.

2. Teachers should remember that the most important requirement is that by the end of Year 10 all students in all schools will have covered the same course content, and will be sitting the same exam.

Aims of the course

Having successfully completed the course the student should :-

i. Understand the importance of Agriculture to the economy of Vanuatu, and to the lives of the ni-Vanuatu people.

ii. Have theoretical and practical knowledge of appropriate techniques of plant and animal husbandry, as exemplified by the important traditional and commercial crops of Vanuatu.

iii. Appreciate the practical opportunities and limitations of traditional and commercial agricultural systems.

iv. Have confidence in their ability to match, sensibly and appropriately, possible combinations of agricultural enterprise to the social, financial and environmental parameters.

v. Understand the importance of a balanced diet as a way of improving the nutritional status of rural and urban populations, through increased use of local foods.

vi. Have developed reading and other information-seeking skills, so as to be able to use a basic technical vocabulary to acquire knowledge.

vii. Have acquired a basis for more advanced studies in agriculture and related studies.

Objectives: Soils

Having successfully completed the course, the student should be able to:

1. Explain how soil is formed.
2. Identify the following soil constituents: sand, silt, and clay particles, soil water and humus.
3. Perform an analysis of a soil sample so as to determine the relative proportions of each of the constituents listed in objective 2.
4. Describe the properties of a sandy soil, a clay soil and a loam, and explain how the cultivation of a soil is affected by these properties.
5. Draw and label a diagram of a soil profile, and explain the properties of each of the horizons labelled.
6. Name the major plant nutrients listed below, and say briefly how a shortage of them affects crop growth, and how growers can replace them in their soils, using either organic or inorganic fertilizers. The nutrients are nitrates, phosphates, potash and trace elements (to be treated as one group).
7. Describe the advantages of organic fertilizers over inorganic fertilizers in terms of their effects on soil structure, and their costs.
8. Describe the cycle of movement of plant nutrients in the soil, and understand how this relates to the rotation of crops, and the activities of soil micro-organisms.
9. To be able to identify the following common soil organisms: earthworm, soil-living beetle larvae, millipede, slugs and snails and describe how they affect the work of the crop-grower.
10. Understand the importance of correct soil management techniques to crop growth and soil conservation and the relationship between good soil and good crops.

as appropriate.

Objectives: Plant biology

Having successfully completed this course, the student should be able to:

1. Name the following parts of a typical flowering plant and say how each contributes to the work of the plant: root, stem, leaf, bud, growing point, flower and fruit.
2. Identify examples of a fibrous root system, a tap root, a root tuber and root hair, and describe the purposes that these serve.
3. Name the following parts of a typical flower and say how each contributed to the work of the flower: the stem, sepal, petal, stamen, anther, filament, stigma, style, ovary, ovules, nectary and fruit.
4. Explain, using diagrams and examples as appropriate, how a seed is formed and distributed.
5. Identify the following parts of a typical seed, and say how each contributed to the work of the seed : test, embryo and cotyledon, in both a typical monocotyledon (e.g. corn) and a typical dicotyledon (e.g. bean).
6. Describe accurately the major factors that influence germination rates.
7. Explain, using diagrams and examples as appropriate, how a plant takes in water, gases and minerals, and how these are transported throughout the plant.
8. Explain, using diagrams and examples as appropriate, how a plant gives off water and waste gases through the processes of respiration and transpiration.
9. Explain, using diagrams and examples as appropriate, how a plant manufactures carbohydrates through the process of photosynthesis.
10. Explain, using diagrams and examples as appropriate, how a plant transports and stores the products of photosynthesis in modifications such as stem and root tubers, rhizomes, bulbs and corms, stems and tap roots.
11. Explain, using diagrams and examples as appropriate, how a leguminous plant works, and how it is used by growers.
12. Explain asexual reproduction in crops such as manioc.

Objectives: Vegetable growing

Having successfully completed this course, the student should be able to satisfy each of these objectives for the following range of crops:

1. Demonstrate the basic skills used to produce these crops, including (where appropriate) bed preparation, selection and planting of propagation material or seed sowing, thinning out, spacing, care of the growing plant, need for special conditions e.g. support or wind break, crop requirements for nutrients and water, control of major pests and diseases, weed control, cover crops, harvesting and storage.
2. Demonstrate the preparation and maintenance of a compost heap.
3. Demonstrate the correct use of compost, both as a mulch and as a soil additive.
4. Correctly classify each of the crops listed in each of the following categorizations:
   i. traditional food crop or introduced vegetable.
   ii. nutritional status, as a supplier of protein, carbohydrate or vitamins and minerals.
   iii. major use of the crop, as either a subsistence or as a cash crop.
   iv. root, leaf or fruiting/seed vegetable.
5. Produce a garden plan that takes account of factors such as crop requirements, planting times, staggered production, soil type and crops previously grown.
6. Produce and use a record of work done in the garden, including a simple balance sheet for crops sold.
7. Demonstrate the correct use of, and care for, common garden tools including a fork, a spade, a rake, a hoe and a bushknife.
8. Demonstrate the correct, appropriate, safe use of, and care for, a hand-held sprayer.
9. Correctly identify examples of the important varieties of crops grown in Vanuatu, giving common and botanical names, where appropriate.
10. Correctly name the major parts of each of the crop plants; naming as appropriate the leaf, stem, root, node, axil, flower or fruit, and any specialised adaptation, such as a corm, a stem or root tuber, a tap root or a bulbil.
11. Correctly identify the different growth stages of the crop plant