2. PASTURES OF THE LEXTON LANDCARE AREA

2.1 Background

The native pastures of Victoria have largely been replaced by introduced species, although they are still present in most pastures to some degree. Some reasons why these changes occurred are:

1. Native grass species are suited to light irregular grazing by native herbivores such as kangaroos. They are less tolerant of heavy grazing by rabbits, sheep and cattle.

2. Native grass species contain low levels of nutrients, particularly phosphorous and nitrogen. Introduced grazing animals do not thrive and need supplementary feeding.

3. Native species are drought resistant summer growers. This means that they do not use excess water, particularly in winter.

4. Natives are readily killed by cultivation but have persisted in some area, particularly on rougher hill country.

5. Annual volunteer species compete strongly with natives and tend to replace them.

1. Annual Pastures

Features

Annual grasses, clovers, medics and volunteer weeds are persistent and well adapted to our Mediterranean type climate. They rely on producing a lot of seed (e.g. Capeweed), having awns or burrs to spread seed on stock (Barely Grass, Burr Medic), burying seed (Sub Clover) and having high levels of hard seed that will keep on germinating over several years (medics, some early sub clovers).

The sub clovers and medics perform a vital role in increasing soil nitrogen levels through the nitrogen fixing bacteria in their nodules. Annual grasses and volunteer species (E.g. Capewood, Corkscrew) tend to dominate our pastures and need to be replaced by perennial grasses and lucerne which are more productive and better water users.

2. Perennial Species

Grasses

Phalaris, Perennial Ryegrass, Cocksfoot and Tall Wheat-grass all have features that can both increase production of the perennial based pasture over annuals as well as increasing eater use, e.g. Phalaris – increased winter growth. Other features include drought resistance (not perennial ryegrass), reduction of erosion, botanical stability and weed control.

Establishment and Maintenance

Perennial grasses establish best if sown shallow (10 mm) into a soil that has reasonable fertility (preferably several years of clover) and are free of competition from weeds. This is because seedling growth is weak and slow.

Management requires limited grazing in the first year with ryegrass, but preferably no grazing of the other grasses until after the autumn break in the year after sowing. This is to allow root development, and dormant buds to develop in the phalaris to help them survive the first dry summer.

Legumes

Lucerne is the major perennial legume. It grows on well drained soils where the soil aluminium levels are not too high, particularly in the subsoils. Because lucerne has a deep tap root it is drought tolerant and is able to use deep moisture and so grow through the summer, even without rain.

Lucerne grows best with high temperatures, but some lucerne (winter actives) can make limited winter growth.

Lucerne is also a weak seedling susceptible to waterlogging and insect attack. Rotational grazing is critical for persistence to enable plants to build-up root reserves. Suggested rotations are 15-20 days on and 40-50 days spell during the growing season. In winter these intervals can be lengthened.

Lucerne provides a high protein feed supply for all classes of animals and is commonly sown with clover for extra winter growth, or with perennial grass on paddocks with variable soil types.

2.2 Pasture Assessment

The main objectives were to determine the distribution and relative proportions of improved and unimproved pastures which exist within the Landcare Group boundaries in 1991.

Information on pasture status was obtained in three ways:

1. Visiting farms in the area.

2. Writing to each landowner asking them to submit information as outlined in a letter.

3. Using local knowledge. One landowner gives an opinion on the status of another landowner's pastures.

To visit all landowners in the prescribed area was beyond the scope of this study in terms of the time required, even so several days were spent in the Landcare area assessing pastures. Via points 2 and 3 above, it was possible to gain information for a good proportion of the total Landcare Group area. The letter disturbed to landowners is attached. Approximately half those surveyed in this way responded. Numerous landowners who did not initially respond to the letter were later telephoned seeking a response. In most cases landowners still did not respond.

2.3 Results

Whilst as much care as possible was taken to clearly define the pasture categories, landowner self-assessment meant that the assessment became very subjective. A check on results for consistency of assessment showed that there was considerable variation in some cases. This was particularly evident in the assessment of B^+ and B^- pastures. As a consequence the resulting map does not differentiate between B^+ and B^- pastures. They have been grouped into category "B".

Of a total Landcare Group area of approximately 40, 000 hectares an area of approximately 25, 702 hectares was assessed.

The breakdown is shown in Figure 3.

Figure 3. Areas of pasture in defined categories in the Lexton Landcare area.

Pasture Category	Area (hectares)	% of Total
A	6, 620	25.8
B	14, 809	57.6
C	3, 707	14.4
Other*	566	2.2

*Other refers to areas under crop, e.g. cereals

The distribution of the categorised pastures is shown on the attached map 2.