The Gascoyne River catchment area

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is assisted by the slight check to plants and the reduction of heavier foliage.

The plant is propagated from seed and the raising of the Cape gooseberry seedlings is carried out in much the same manner as the raising of tomato plants.

The percentage of seeds which eventually germinate is normally rather low and an ounce of seed is usually required to provide enough plants for an acre.

**Time of Planting**

In practice there is some variation in the time of planting. Some growers plant the seed in autumn, and plant out in winter and some prefer to sow the seed in June and plant out in late September.

At this later planting date the plants with limited irrigation in summer can be made to remain semi-dormant and then grow away vigorously with the autumn rains. They then carry a good crop in the July-October period when high prices are usually obtained on the Perth Market.

With irrigation over the summer the Cape gooseberry crops mainly over the February-March period when prices are more competitive.

**Cultivation**

Planting distances range from 5 ft. x 5 ft. to 8 ft. x 10 ft., depending on the fertility of the soil and the method of cultivation. As the Cape gooseberry has a large proportion of its feeding roots near the surface of the ground depth and closeness of the cultivation to the plant must be varied to allow for the spread of the plant's growth.

An application of ½ lb. of mixed fertiliser is generally made to each plant. This is either mixed into the soil in the planting hole or spread as side dressing around the plant soon after establishment. It is sometimes chipped into the ground with a hoe.

A suitable mixture for this application is 1 nitrogen, 2 phosphate, 1 potash.

The bushes are sometimes affected by red spider and spraying with Metasystox is necessary to keep this pest in check.

**Harvesting**

The berries are harvested when they are yellow and at this stage the husks are light brown and paper textured. Recent windfalls should also be picked up at the same time.

If the berries have become moist due to rain or irrigation they should be dried in the sun to prevent sweating in the pack. Some culling is necessary during packing, and fruits with discoloured husks should be rejected.

Growers sending their fruit by rail should pack into the half dump case which holds about 15 lb. Those in the metropolitan and hills area generally use small open mesh sacks which hold from 15 to 20 lb. Considerable resistance to pressure is afforded the berries by virtue of this protective husk they carry.

Market prices vary in accordance with the time of the year, but there is at all times a good demand for this fruit. Consequently the Cape gooseberry is a crop that might be considered as a catch crop by primary producers in many districts.

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**THE GASCOYNE RIVER CATCHMENT AREA**

By W. M. NUNN, Superintendent, North-West Division

A RECENT Department of Agriculture survey of the Gascoyne River catchment area has indicated that deterioration of plant cover in the area contributes to the severity of floods which regularly damage the town of Carnarvon. It is hoped that the results of the survey will help efforts to regenerate the catchment area, and reduce the risk of flooding.

On March 26, 1960, a cyclone passed over the Gascoyne settlement destroying banana plantations and causing considerable damage to property.

During February 1961, two successive cyclones following more easterly courses brought heavy rains to the catchment areas and sent flood water to Carnarvon on an unprecedented scale.

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A number of the stations in the Gascoyne River catchment area are already at work reclaiming damaged sections of their runs. This station is successfully using chequerboard ploughing to reclaim a bare claypan area.

The Government was quick to provide assistance to those who suffered financial loss. Subsequently a committee was appointed to investigate erosion caused by the floods and its relationship to future river flow, and this committee felt that an assessment of the catchment area was necessary to determine whether the deterioration of plant cover was permitting greater run-off after heavy rains and so contributing to the severity of river floods.

Aerial Survey

An aerial reconnaissance survey was carried out recently by two officers of the Department of Agriculture who have specialised knowledge of this type of country, and a very useful plan is in the course of preparation which will show the main types of country and describe the changes which have occurred throughout years of stocking.

From the water behaviour point of view there are two types of terrain which go to make up the catchment area:

- The high-level hilly regions, which are essentially run-off areas, and
- The flat depositional plains near the main water courses.

The former have a very low capacity to absorb water and rains are quickly shed via numerous small creeks. While some of these continue as water courses to join the Gascoyne or the Lyons river, the bulk of them disperse onto the depositional flats, and it is these flats, benefiting as they do from the additional water, that have provided the best grass and saltbush grazing on Gascoyne stations.

Unfortunately, the many years of grazing by sheep and by kangaroos, and the cumulative effects of a number of drought years, have brought about a very serious depeletion of plant cover on these once heavily vegetated flats.

Plant Cover Lost

With the removal of vegetation, soil surfaces have become hard and impervious. They are no longer able to absorb the water that disperses onto them from the hills. The water then rushes across the flats, taking surface soil with it and forming new gullies which link up into streams and continue on as such to deliver water to the main rivers.

This means not only more water delivered more quickly to the river and therefore greater peak floods for Carnarvon, it means also that those once lush Gascoyne grass flats and saltbush flats, are in danger of being permanently lost to the pastoral industry. If the tendency should go on unchecked then the water draining from the hills will eventually go by stream channels direct to the rivers, and the present flats will never again enjoy the additional run-on water which enabled them to grow such good stock feeds in the past.
This is a dismal picture to present, but fortunately, pastoralists in the area are already aware of the situation and are making a substantial effort to reverse the trend.

Stocking numbers are generally much lower now than in the early years when much of the damage was done by concentrated stocking on favoured areas with a minimum of water points.

Some of the stations concerned, in addition to reducing the grazing concentration, are actively cultivating and planting sections of their runs.

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