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PASPALUM VAGINATUM-FOR SALTY SEEPAGES AND LAWNS

By C. V. MALCOLM and I. A. F. LAING, Research Officers, Soils Division

PASPALUM VAGINATUM, aptly termed "sea shore paspalum" has an amazing ability to thrive in wet salty situations. It is also a good lawn grass. Seed of the grass is not available but it may easily be established by planting pieces.

This article reviews where and how the grass may be used.

Where to use it

Bogs, gullies, and seepage areas which stay wet even with salty water during the summer are ideal situations for growing Paspalum vaginatum. It will form a dense mat of roots which stops erosion and reduces bogging, and will turn the areas into green "lawns." When established, it is very resistant to grazing and provides valuable green feed during the hotter months.

When to plant it

Since Paspalum vaginatum is a summer grower it is best planted when its growth commences in the spring, around August-September, to give it a chance to become established before summer. In very wet seepages however, plantings made in mid-summer will be successful. Under the most favourable conditions one small piece of root may spread to cover an area five feet in diameter by the end of autumn.

How to plant it

Paspalum vaginatum can be established from roots. The amount available for planting determines how it should be used. Small amounts are best formed into a nursery plot by planting the roots in the most favourable situation. This will probably be the wettest part of the seepage area or may be an area where water can be supplied.

Subsequent plantings may be made from the nursery plot when time permits. If roots are abundant they may be tried in a number of different areas to find out by experiment where it is of most use.

The drier the situation the more care is required in planting. In very wet boggy patches runners thrown on the surface will grow, but it is advisable to tuck them into the soil. In areas which are less wet it is best to cut and plant small sods of turf about two or three inches square. These should be planted with the top of the sod level with the ground surface.

In gullies, creeks, and bogs it is convenient to carry the ready cut or teased Paspalum vaginatum pieces in a bucket or wheelbarrow and use a mattock or hoe to open the soil at regular intervals for planting. Treading each piece down consolidates the job.

On larger, drier areas where it is possible to use implements, sods of the grass may be planted in a furrow made with a plough. A further adjacent run with the plough may be made to partially cover the sods, and running the tractor wheels over the planting makes it firm.

How to treat it

Until bare areas have been covered with grass it will benefit from grazing protection, since sheep crop the grass closely and stop runners colonising surrounding bare soil.

Salty soils usually develop a hard surface crust, which should be broken to assist runners to root down.

Mulching the bare areas with a covering of hay or straw is also helpful since it keeps the soil cool and soft.

Once Paspalum vaginatum is established over the whole of the suitable areas it is virtually impossible to eat it out.
On non-salty areas, *Paspalum vaginatum* responds to phosphate and nitrogen fertilisers. As the situation becomes more salty the response to fertilisers is less obvious, and only in the case of *Paspalum vaginatum* growing on fairly fresh seepage areas will the application of super and urea be warranted.

**PASPALUM VAGINATUM AS A LAWN**

Many people have the problem of growing a lawn with salty water or soils. Fortunately couch and buffalo grasses are reasonably salt tolerant and some lawns of these grasses are successfully grown with water containing 100 to 300 grains per gallon (1,400 to 4,300 parts per million) total soluble salts.

*Paspalum vaginatum* provides an opportunity to have a good lawn with even saltier water. Little precise information is available, but it is possible that good lawns can be grown with water containing up to 1,000 grains per gallon (14,300 ppm) total soluble salts, where ample water is applied and leaching can be ensured to avoid excess salt accumulation. When relatively salt-sensitive plants are growing nearby careful application of water is necessary to avoid salt injury.

At least one case is known where a *Paspalum vaginatum* lawn has been grown successfully using water which varied between 530 and 650 grains per gallon total soluble salts (7,600 to 9,300 parts per million T.S.S.) during the summer months. Six inches of yellow sand was placed on the heavy gravelly clay soil of the area, to allow for leaching of salts. This layer of sand has no doubt been partly responsible for the continued good growth of the lawn.

Good lawns of *Paspalum vaginatum* can be grown with fresh water. Water and fertiliser requirements are similar to couch. It produces vigorous runners but it is not as aggressive in the garden as kikuyu. Growth in shaded areas is akin to couch and buffalo in winter but survival is better and the warm weather restores a continuous turf.

**WHERE TO GET IT**

Many farmers have considerable areas of *Paspalum vaginatum* established and are willing to allow others to dig runners from their properties. Where no such areas are known, agricultural advisers at Department of Agriculture district offices can usually suggest sources of supply. If this fails, the Soils Division of the Department of Agriculture, Jarrah Road, South Perth, should be contacted.

The Department's Avondale Research Station at Beverley has excellent stands of the grass, and farmers may call there to collect runners.
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