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PASPALUM GRASS
(Paspalum Dilatatum Poiret)

By C. A. GARDNER, Government Botanist, and H. G. ELLIOTT, Assistant Superintendent of Dairying

Originally native to Uruguay and Argentina, Paspalum dilatatum was introduced into the U.S.A. about the middle of the 19th century and is now firmly established and cultivated in the Gulf States where it is known as “Dallis grass” after A. T. Dallis of La Grange, Georgia. It was introduced into Australia by Baron von Mueller about 1880 and since 1898 its cultivation has steadily increased.

Of the six species of Paspalum recorded from Western Australia Paspalum dilatatum is the one most commonly cultivated. Two of the species are native to this State, the other four being introduced.

The name *Paspalum* is from the Greek *paspalos*—millet; the specific name *dilatatum* refers to the dilated rhachis of the raceme. The plant has many vernacular names such as Paspalum Grass, Large Water Grass, Golden Crown Grass and others.

In the irrigation areas of Western Australia, paspalum is spreading naturally, and many farmers have permanent pastures consisting mainly of this grass, usually in association with legumes such as subterranean, white and strawberry clovers or lotus major, and often with other grasses such as ryegrass and cocksfoot.

**BOTANICAL DESCRIPTION**

A perennial grass with tufted ascending or erect culms, leafy at the base, 2-5ft. high, glabrous except the inflorescence. Inflorescence consisting of 3-7 spike-like spreading racemes 2-4in. in length, towards the summit of the culm, the spikelets arranged in three or four rows along a flattened rhachis. Spikelets 1-flowered. Lower glume absent. Upper glume ovate-orbicular, shortly acute. Three-five nerved, pubescent on the back, the margins ciliate with silky hairs, with the addition of long hairs at the base of the spikelet. Lower (sterile) lemma like the upper glume in shape and texture, but smaller and usually glabrous, 3-nerved. Fertile lemma shorter than the upper glume and sterile lemma, almost white, crustaceous orbicular, almost flat, with closely inrolled margins embracing the margins of the palea, faintly 3-nerved, almost smooth and shining, but minutely rugose under a lens. The fertile lemma and the tightly embraced palea, enclosing the grain, readily fall from the spikelet, and are together called the “seed” in commercial terminology.

**SOIL REQUIREMENTS**

*Paspalum dilatatum* does not appear to favour any particular soil type and will grow on light sandy soil or stiff clays where ample moisture is available. As usual, with plants of this kind, the best growth is obtained on moist, rich alluvial flats, or under irrigated conditions. It may be sown with success in any moist situations, even on hillsides in the Lower Southwest.

**TIME OF PLANTING**

To obtain the most satisfactory results from seed, planting should be carried out in the early autumn or late spring months, unless the land can be irrigated, when early to late summer planting can be carried out.

Germination of the seed is most rapid when the soil temperatures are high and the ground moist. Partial or total failures
PASPALUM GRASS.
Paspalum dilatatum Poir.

A—Portion of plant; B—Spike; C and D—Details of spikelet.
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often occur if planting is carried out in the early winter months when the land is cold and wet.

**METHOD OF PLANTING**

The ground should be well worked and have a fine seed bed. The seed is sown at the rate of 10 to 12 lb. to the acre when sown alone, but it is usually sown at 4 lb. to 8 lb. to the acre with white clover (2 lb.) strawberry clover (1/2 to 1 1/2 lb.), subterranean clover (4 lb.) or ryegrass (4 lb.).

Superphosphate at the rate of 2 cwts. per acre is recommended, but under irrigated conditions, up to 4 cwts. per acre can be used to advantage.

After sowing, the seed should be lightly covered with soil by using a T-Bar roller, bush or light harrows. Deep planting must be avoided at all times.

**AFTER-CARE**

Paspalum makes vigorous growth from October to May inclusive and under ideal conditions the most rapid growth occurs during January, February and March. It has a tendency to run to seed rapidly during these hot months however and should be grazed heavily and mown to prevent the seed stems from forming.

To prevent the grass from becoming sod-bound, it is necessary to apply a system of efficient renovation so that clovers and other grasses can grow in association with it. Normally, this renovation should be done in the autumn and two to three years after establishment.

On old sod-bound paspalum swards, complete breaking-up and working down of the area is recommended. After a good tilth is produced, the area should be reseeded with perennial ryegrass at 4 lb. to the acre and white clover at 2 lb., or midseason subterranean clover at 4 lb., per acre. Under irrigated conditions a mixture of perennial ryegrass (6 lb.), cocksfoot (4 lb.), white clover (2 lb.), and strawberry clover (1/2 lb.) is recommended.

**ERGOT**

For many years, paspalum in this State has been seriously affected with ergot (Claviceps paspali), a fungus which attacks the seeds and which may produce poisoning.

The presence of ergot is noticed when the seed-heads form, as affected seed-heads become sticky.

To control the disease and guard against stock poisoning, seeding should be prevented by mowing or grazing heavily during the hot summer months.

**SEED**

Paspalum normally produces seed freely, but as the seed ripens from the tip of the head downward and shatters off as soon as it is ripe, good germinable seed can only be gathered by hand. During recent years, the quality of seed available has been particularly good and the percentage of germination has been highly satisfactory. The number of seeds per lb. is estimated at 320,000 with a bushel weight of 20 lb.

**FEEDING QUALITY**

Practically all classes of livestock will appreciate paspalum when it is young and vigorous, and it remains succulent and nutritious when managed and grazed efficiently.

When not grazed adequately in the early summer, it runs to seed and the stalks become fibrous and tough.

**EFFECT OF FROSTS**

Paspalum is a heat-loving grass and is susceptible to frosts. Even light frost will cause it to turn brown, but with the advent of warmer weather in the spring, it will resume growth and produce a large bulk of good feed, provided that ample moisture is available.

**PROS AND CONS**

From the foregoing, it will be seen that paspalum has definite advantages as well as certain disadvantages and these have been summarised below.

Advantages.

(1) It is a perennial grass which makes vigorous summer growth.
(2) It thrives on moist soils but is highly drought-resistant.
(3) It will stand heavy grazing by stock.
(4) It gives green feed in the spring, summer and autumn months.
(5) Seed will remain dormant in the ground for months until conditions are favourable for germination.

Disadvantages.
(1) It is susceptible to ergot.
(2) It is not palatable when allowed to become rank or old.
(3) It may become troublesome under irrigated conditions if not well managed and controlled.
(4) It will not stand severe frosts.
(5) The seed matures unevenly causing low germination rates.

Book Review.

TEXTBOOK OF MEAT INSPECTION

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