Floodplain
GRAZING PROJECT

# WATER COUCH

*Paspalum distichum* (formerly *P. paspalodes*)
Other common names: buffalo grass

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## HOW TO IDENTIFY IT

Water couch is a native, perennial* grass. It grows up to 50cm high and is both stoloniferous* and rhizomatous*.

The leaves are relatively short and narrow: 4cm long and 3mm wide.

The v-shaped seedhead is 1.5-7cm long and has 2 (rarely 3 or 4) branches. The seeds are arranged in two rows along each branch. The seeds are about 3mm long, oval in shape and have very short hairs.

## GROWING CONDITIONS

Water couch is native to Australia in areas receiving an annual rainfall of 500-1500mm.

It grows in wet or damp situations, such as on the edges of wetlands, dams and drainage channels. It can also form grasslands in wetlands that are only seasonally inundated. Water couch grows fastest in water up to 15cm deep.

Water couch grows best in full sunlight as it is quite sensitive to shade. The growth of taller wetland species such as *Juncus* and *Eleocharis* can lead to lower production.

## SOIL REQUIREMENTS

Water couch can grow on a range of soil types as long as sufficient moisture is present.

## DROUGHT AND FROST TOLERANCE

Water couch is moderately drought tolerant. Frost causes browning-off, but plants are not usually killed. The affect of frost is more severe when surface water is absent.

## GROWING SEASON

Water couch grows from spring to autumn. It will grow at temperatures between 10-15°C and 30-33°C. Growth rates decline at temperatures over 40°C.

## ABILITY TO SPREAD

Water couch spreads by its rhizomes (underground stems), stolons (horizontal, above ground stems) or seed.

Water couch can be introduced into a suitable area, but there is no commercial supply of sowing material in Australia. In some areas it has been introduced by transplanting sprigs or sods (similar to kikuyu) or by using hay or silage made when the grass is seeding.

## WEED OR PASTURE GRASS?

In some areas water couch is considered a weed, particularly in inland irrigation channels where it can block water flow. In contrast, it is considered a valuable pasture grass in both inland and coastal wetlands.

## SUITABILITY FOR HAY AND SILAGE

It makes useful hay and silage when conditions are dry enough for harvesting. Long term effects on the stand are not known.

## GRAZING VALUE

Water couch is readily grazed by cattle and horses. From spring to autumn both the leaf and stem are generally high in digestibility, crude protein and metabolisable energy. Protein levels range from 13– 22% in the leaf and 4-13% in the stem.

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The leaf is capable of meeting the feed requirements of lactating cows in most months (over 65% digestibility).

Water couch is also capable of high growth rates. On the North Coast growth peaks in the hottest months, with up to 150kg dry matter per hectare per day recorded. This is higher than recorded growth rates for fertilized kikuyu. Growth rates can be very variable depending on moisture availability, water depth and temperature.

No quantitative figures for animal production have been recorded, but measured plant quality and growth data along with anecdotal evidence indicates that it is a valuable forage grass, especially as it is available when other grasses have dried off in low-rainfall periods.

## GRAZING MANAGEMENT

No grazing management studies have been done on water couch in Australia. Cattle will readily graze water couch in standing water but long term affects on the stand or cattle are not known. Anecdotal evidence indicates that thick organic mater layers protect the soil from lasting damage.

It is known that water couch responds well to grazing and can withstand heavy grazing, but grazing below the water level will reduce persistence and production (Chabreck, 1968).

For maximum production, no more than half of the current season's growth should be grazed off. Deferring grazing for 60-90 days every two to three years during the growing season increases seed production and improves plant vigour (Leithead et al. 1971).

## FERTILIZER MANAGEMENT

Water couch is not usually fertilized as it grows in wet areas where fertiliser would be readily lost. Water couch litter takes a long time to break down (>1 yr), allowing a thick organic matter layer to develop. The organic matter acts as a nutrient store.

## WATER MANAGEMENT

Water couch grows fastest in water up to 15cm deep. Its growth rate slows down in deeper water. Management of water depth can be a way to manipulate pasture growth. Prolonged periods of low soil moisture can affect water couch production and lead to competition with other species.

## USE IN ACID SULFATE SOIL REMEDIATION

Establishing water couch in coastal backswamps can help manage acid sulfate soils. By reducing drainage, and providing ideal growing conditions for water couch, the amount of acid sulfate run-off entering nearby waterways is reduced. Water couch can tolerate high levels of heavy metals and acidity.

### *GLOSSARY

Perennial: completes life cycle over more than one year
Stoloniferous: stems grow horizontally above ground
Rhizomatous: stems grow horizontally below ground

### FURTHER READING

FAO's Grassland Index at *http://www.fao.org /ag/AGP /AGPC/doc/GBASE/data/Pf000289.HTM*
Chabreck, R.H. (1968) The relation of cattle and cattle grazing to marsh wildlife and plants in Louisiana. Proceedings, Annual Conference Southeastern Association of Game and Fish Commissioners. 22: 55-58.
Leithead, H.L., Yarlett, L.L., Shiflet, T.N. (1971) 100 native forage grasses in 11 southern states. SCS–USDA Agricultural Handbook. 389.

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