

Wetlands can handle cautious cropping

By Michelle Nel

Nu-Farmer file: Photos 24, 25, 26, 10

You can plant in a wetland, but don't expect to drain it and plant the whole area up with mealies, warns the Mondi Wetlands Programme. Planting in wetlands without wrecking them is a delicate balance.

Planting crops is probably the most controversial use for a wetland because it holds greatest dangers for changing the whole way a wetland works. So says wetlands expert, and Mondi Wetlands Project (MWP) colleague Dr Donovan Kotze of Natal University. "In the past, commercial farmers set a bad example when they drained wetlands on a large scale for crops," says Dr Kotze. "This meant the wetland turned into dryland and didn't manage water anymore. Thankfully this practice has mostly stopped but now the agricultural development of wetlands by emerging farmers is widespread in South Africa."

While you should not see wetlands as a major part of your 'production line', you can use them in small ways to supplement your farming. "Whether it is in fact legal to plant in a wetland is a grey area," says Dr Kotze, "but, this law is being revised." The new law may incorporate the notions of 'wise use' of resources; something that is already being promoted by MWP.

What the law currently says

The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983) says:

- No land user may use the vegetation in a vlei, marsh or water sponge or within the flood area of a river in any way that damages the natural agricultural resource.
- Except on written authority, no land user may drain or cultivate wetlands including vleis, marshes or water sponges.
- No land user may create an obstruction that will disturb the natural flow of water.

The main function of a wetland is to hold and slowly release steady amounts of clean water. To do this, the wetland needs to have undisturbed soils and good wetland plant cover. Too much cultivation, especially in areas high up in the catchments of rivers, interferes with water management and means less good quality water further down.

"Some of the best ways of planting in wetlands have in fact been handed down for generations among African families," says Dr Kotze. "These include choosing crops that can handle being wet (or waterlogged) (for example the amadumbe - *Colocasia esculenta*); cultivating by hand, leaving strips of indigenous vegetation in between the crops and using very little fertiliser or poisons."

What you should do

- Pick the right kind of crop, a water loving plant, or one that does not need lots of artificial drainage and dry soils to survive. Amadumbe and certain indigenous pastures are good choices.
- Don't plant trees in wetlands, especially exotic trees that require a lot of water, since their roots go down too deep and they will dry the wetland out.
- In areas where the risks of flooding and soil loss are low you can plant at the outside edges of the wetland, as opposed to right in the middle of the wetland.
- Try to plant with minimum disturbance. Plant by hand. Dig only as much as is necessary.
- Use the wetland plants that you clear away as a mulch to cover the soil.
- Use as little fertiliser as you can because this will seep into the water and may upset the balance of plants in the wetland.
- Patchwork cultivation is a good idea; this means you leave patches of natural wetland vegetation in between planted patches.
- Plant no more than one quarter of a wetland in total.

- A good idea is to have a number of beds, say three, and only plant one each year. This means that each bed rests for two years in between plantings.
- If you are going to dig drains make sure they are no more than 30cm deep and cover a small area to prevent the wetland drying out completely.
- All drains should be blocked in the dry season to keep the wetland alive.

What you should not do

- Don't plant in the wettest parts of the wetland.
- Avoid sensitive wetland areas: wetlands with high erosion hazards, forested wetlands, peatlands, wetlands supporting endangered species such as wattled cranes, wetland areas on the margins of estuaries and wetlands in catchments and landscapes where lots of damage has been done to other wetlands already.
- Never dig deep drains to dry out a wetland or you could destroy the structure and function of the wetland.
- Avoid using pesticides; they will contaminate drinking water.
- Don't clear big areas to plant. Try to leave as much original vegetation in place as you can to protect the soil and underlying water.
- Do not plant commercial crops such as sugar cane. If the wetland is used for crops it must only be used for food gardens for your household's food security.

Other kinds of 'crops'

One of the best ways of making money from a wetland is to harvest plants by hand which already grow there. Examples include wetland sedges such as incema (*Juncus kraussii*), induli (*Scirpus* spp) ikhwane (*Cyperus latifolius*) and imisi (*Cyperus textilis*) which are used for weaving traditional sleeping mats. In the wetlands of the Eastern Free State you may find Sesotho women cutting a sedge (*Cyperus marginatus*) or lodi which is rolled into a strong twine and then woven into what looks like a sock. It is in fact a traditional beer strainer. In the Northern Province reeds are used in traditional homesteads to build screens or fences, an idea copied by many safari camps.

Wetland plants can also be woven into place mats, baskets or decorative items which sell well at roadsides and curio shops. Reeds are also useful as building materials. Crafts may not be your core business but you may find a way of creating a joint venture with local women to earn income from crafts. Or as a female farmer, you might produce some crafts while you wait for your crops to ripen. You may have harvested reeds at the end of the previous growing season and you will not only benefit the wetland by clearing space for new plant growth, but have material to work with. Perhaps you made crafts in winter and can use the early part of the growing season for selling your work. There may also be a small market for sustainably harvested food (waterblommetjies, fish and frogs) or medicinal plants.

Why harvesting of wetland plants is a bonus

- It promotes environmentally sensitive land-use options – sustainably harvested wetlands are more likely to conserve biodiversity than heavily cropped ones and may prove to be a tourist attraction, especially if the bird life is good. Thus some small scale ecotourism can be combined with selling crafts. This is another way that farmers can supplement their incomes.
- When sedges and grass are cut, the soil is not disturbed and the protective vegetation is left. Thus, such areas conserve soil and water and ensure a supply of good quality water much better than a wetland which is disturbed for cultivation.
- Harvesting and making traditional and tourist crafts provide a quick income for rural woman, compared to crops which can take months before being ready for harvesting.
- Women are empowered, traditional weaving skills revived, income earned, self esteem raised, and poverty is alleviated.

The MWP Wise Use and Community Programmes help people use their wetlands sustainably. They work with the forestry, livestock and crop industries, and rural communities.

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