REVEGETATION

Summer active native grasses support agriculture and wildlife

by Avril Baxter and Heather Adamson

THE recent wet summer has led to a proliferation of our summer active native perennial grasses and *Land For Wildlife* member Roy Butler has enjoyed watching the grass grow.

In 1992, shortly after veterinarian Roy Butler moved to Merredin to join Agriculture WA, he and his wife Judith bought 33 ha of cleared farmland on the outskirts of town. The previously cropped and grazed paddock became home to a couple of horses and under this grazing regime, native perennial grasses persisted and started to spread.

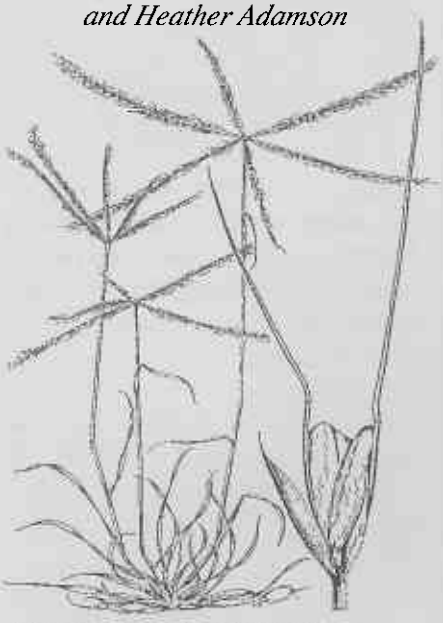
Eight years later, Roy's permanent pasture consists of perennial native grasses *Enteropogon acicularis* (curly windmill grass), *Chloris truncata* (windmill grass), *Enneapogon polyphyllus* (canary grass) and *Aristida contorta* (bunched kerosene grass). Being summer active, these grasses provide the bulk of summer feed. When they become dormant during winter, clovers, sub-clovers, medics, barley grass, rye grass and the native perennial spear grasses provide lush winter feed.

In 1997 Roy bought some Dorpino sheep (a cross between a South African meat sheep and wool growing merinos) to manage the pasture and obtain some useful data. The sheep are grazed in rotation over four paddocks that average 8 ha each.

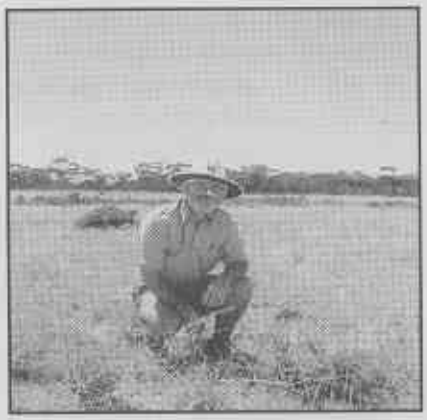
Roy began monitoring the sheeps' condition in November 1999. Most ewes lost weight until the end of December then started to gain an average of 89g/head/day. Lambs gained an average of 95g/head/day throughout this time.

The feed value of the actively growing native grasses compares well with more traditional feed. In late January *Enteropogon acicularis* had a dry digestible matter (DDM) of 66% and 19.6% crude protein (CP). *Enneapogon polyphyllus* had 62.1% DDM and 15% CP.

Roy concluded that in the eastern wheatbelt, stock can benefit from the inclusion of summer active native perennial grasses and in years of summer rainfall, supplementary feeding may be reduced. This may remove some of the anguish farmers feel when watching the nutrition stored in winter grown pastures being washed out by summer rains.



Windmill grass, Chloris truncata.



Roy is most impressed with the mix of species in his pasture.

He sees the main benefits being water use over summer. The native grasses dry out the soil profile and allow it to absorb more of the winter rains before the excess seeps to the ground watertable. Wind and water erosion is negligible.

Animal life is certainly on the increase. Grasslands provide seeds, nesting material, nesting sites and cover. Grasshoppers, caterpillars, moths, native cockroaches, spiders, ants, crickets and bees abound. Ground nesting birds such as brown quail and Richards's pipit thrive in the area along with robins, willie wag tails, white fronted chats, magpies, mudlarks, bobtails, western blue tongue lizards, western bearded dragons, field mice and rats. This allows larger birds such as barn owls, nankeen kestrels, black-shouldered kites, butcher birds and brown falcons to hunt continually over the grassland feeding on smaller prey.

Roy is most impressed with the mix of species in his pasture, which make use of different climatic conditions. This year's summer rains have lead to a green pasture heavily dominated by *Chloris truncata*. This grass lives for about three years and sets large amounts of seed which germinate very quickly after summer rains while the longer lived *Enteropogon acicularis*, can produce green leaves in the hottest and driest summers. Within the system, winter legumes provide nitrogen for stock and summer pasture growth.

Roy sees it as a robust system. There is always something "on offer" and encourages other farmers to investigate it's use within their own system.

Through his work with Agriculture WA, Roy is investigating the use of *Chloris truncata* as a summer growing native grass sown with serradella on acid yellow sands. In this mix the windmill grass provides soil cover to stabilise the erodible sands and make use of any summer rain and the serradella will provide winter feed and a nitrogen source for the grass.

After hearing of Roy's success, last year Bruce Rock farmer Michael Buegge stopped spraying *Chloris truncata* out of a paddock which has been continuously cropped since 1997. It has proliferated with this summer's rain at the expense of other summer growing weeds such as paddy melons. Michael sees this as an advantage, he can crop over the windmill grass but would have had to spray the melons which get caught in the knife points of his seeding equipment. Michael also believes

continued on page 5

continued from page 4

that if this winter starts off wet, then he will still be able to seed the paddock, which with the absence of windmill grass could have been too wet. This year the *Chloris truncata* had a crude protein level of 14.2% and digestible dry matter of 63.4%.

There are many questions to be answered. Will the grass carry over any diseases, will it make sandy soils non-wetting, will it mean that winter crops get off to a later start due to a decrease in stored soil moisture? Farmers with an interest in perennial agricultural systems may have to drive the research.

Michael Buegge has Chloris truncata *seed for sale Ph/Fax 9061 1298. Roy Butler can be contacted on 9081 3111 (wk) 9041 2818 (ah).*