

Effective management options for pasture dieback

S. Buck ^{A,B}, P. Shadur ^A, P. Jones ^A and K. Hopkins ^A

^ADepartment of Agriculture and Fisheries, Qld 4702

Introduction

Pasture dieback is causing premature death of productive sown grass pastures in higher rainfall areas of eastern Queensland and north-east New South Wales. Beef production and profitability on affected properties are severely impacted. Research into management options to restore productivity on affected paddocks has been conducted since 2018. This paper summarises 4 management options that address pasture dieback and a decision support matrix created from results of trials conducted by the Department of Agriculture and Fisheries.

Methods

Between 2018-2020, up to 10 research and demonstration sites on commercial beef properties and research station were established from Habana (near Mackay) in north Queensland, to Boonah in south-east Queensland. These sites were previously productive grass pastures which had either completely died or were heavily affected with mid-stage symptoms of pasture dieback. Treatments at each site were dependant on pasture dieback severity, research and industry needs, and equipment availability. Treatments included insecticides; fungicides; burning; cultivation; slashing; fertilising; sowing new grass pastures with and without legumes; sowing forage crops before re-seeding to grass pasture.

Results

Results from all 10 sites have been consolidated into 4 groupings of management options and their suitability to small (random patches within paddocks) or widespread areas (part or whole paddocks) on arable or forest land (Table 1). Land managers select the management option(s) and practice(s), or combination of, applicable to their situation. Arable land is mostly flat and cleared of trees, enabling equipment access (e.g. tractor with plough or spray-rig). Forest land is treed and/or rocky and steep making equipment access difficult.

Table 1. Pasture dieback management.

Management option	Practice	Small patch		Widespread	
		Arable	Forest	Arable	Forest
Manage for recovery	Adjust stocking rate (forage budget)	Yes	Yes	Yes	Yes
	Monitor & treat weeds in bare patches	Yes	Maybe	Yes	Maybe
Improve pasture	Sow legumes and tolerant grasses	Yes	Yes	Yes	Yes
	Apply fertiliser	Maybe	Maybe	Yes	Maybe
	Cultivate	Maybe	No	Yes	No
Sow a break crop	Annual forage (graze or hay/silage), grain	No	No	Yes	No
Control pathogen(s)	Spray pesticide	Maybe	No	No	No
	Burn	Maybe	Maybe	Maybe	Maybe

Discussion and conclusions

Conducting multiple research trials and assisting producers to successfully manage pasture dieback has been critical in developing a practical and user-friendly decision support tool. These management options have been extended to industry at extension events and through on-line media. Paddock productivity is being successfully restored through the strategic selection and application of these practical management options.

^B Corresponding author: stuart.buck@daf.qld.gov.au