

A comparison of grass germination under various mulches including apple pomace.

Summary

The results show that both pomace and to a lesser extent citrus residue improved the vigour and establishment of the grass considerably and all six treatments were more effective than the commercial Broadleaf P4 gel and the control treatments. The highest rate of pomace mulch [2 cm] gave the best survival result with both the bent and creeping red fescue grasses.

This demonstrates a potential use for residual pomace and citrus, both environmentally friendly and readily acceptable waste organic materials.

Introduction

The germination and establishment of grass often fails because of drying out during warm spells of weather in the weeks following sowing. This can be a particular problem in orchards under trees and in other more diverse areas such as roadside verges and banks, all notoriously difficult environments for grass establishment.

The need to minimise soil contamination of cider apples during harvesting has led to the necessity to reduce the width of the herbicide strip under mature trees. Research has shown that it is difficult to establish new grass swards successfully in these dry and shady conditions.

Trial method and results

In order to assess the value of apple and citrus pomace residue as a mulch to aid the establishment of grass swards, an experiment was carried out at Long Ashton Research Station in 1991, using two grass species and three rates of apple and citrus waste from Bulmers' citrus plant. These treatments were compared with a commercial soil conditioner [Broadleaf P4, a hydrophilic gel] and an untreated control.

The grass seed was sown in trays in a cool glasshouse during January and the growth and survival was assessed over a seven week period following heavy watering then dry conditions. The table below lists the nine treatments and gives a vigour assessment of the germinating grass seed.

Grass growth vigour assessment [1-10] sown 10/1/91

Grass cultivar	Bent ['Highland']			Creeping red fescue ['Liprossa']		
	30/1	11/2	20/2	30/1	11/2	20/2
Apple Pomace						
Low rate [covered]	10	10	8	10	8	8
Medium rate [1 cm]	8	8	9	9	8	9
High rate [2 cm]	9	8	10	9	8	10
Citrus residue						
Low rate [covered]	8	9	6	9	8	6
Medium rate [1 cm]	7	8	7	8	6	7
High rate [2 cm]	6	6	6	7	6	6
Broadleaf P4						
Low rate [20g/m ²]	8	Wilting	Dead	6	Wilting	Dead
High rate [40g/m ²]	7	Wilting	Dead	5	Wilting	Dead
Control [Untreated]	9	Wilting	Dead	8	Wilting	Dead