

OMEX AGRICULTURE

DEVELOPMENT TRIAL REPORT 2006

TITLE: The effect of NAAC on the growth of turf

REF. NO: 28/2006

AIM(S): To examine turf for phytotoxicity following application of NAAC for use as a pitch deicer

SITE DETAILS: Bardney Airfield, Tupholme, Lincoln

Introduction:

There is some experience from Europe following application of NAAC to melt frozen pitches. An application rate of 500 kg/ha followed by a further application of 500 kg/ha the following day is proposed as a method of melting frozen ground. The application applies 280 kg/ha Na (377 kg/ha Na₂O) which is significantly more than the sodium requirement of turf. The trial examined the effect of the application onto turf

Treatments:

1 NAAC applied at 100g/m² (equivalent to 2 applications of 500kg/ha NAAC)

2 NAAC applied at 200g/m² (equivalent to double the suggested application rate)

3 Untreated

4 randomised replicate plots per treatment, measuring 1m x 1m, were applied by hand with NAAC, half late in the afternoon of 7-11-2006 and half early the following morning. Rain fell within 2 days, sufficient to remove all evidence of the prills from the surface.

Assessment:

The plots were scored for vigour, colour and evidence of scorch (phytotoxicity) on a scale 1-10 (1 low/poor, 10 high/very good) and the average score is detailed below:

Results:

Colour						
	1 DAT	3 DAT	7 DAT	15 DAT	28 DAT	58 DAT
100g/m ²	6	7	6	7	7	6
200g/m ²	7	7	7	6	6	6
Untreated	7	6	7	7	6	6

Vigour						
	1 DAT	3 DAT	7 DAT	15 DAT	28 DAT	50 DAT
100g/m ²	5	5	4	5	4	4
200g/m ²	5	4	4	5	4	4
Untreated	4	5	4	4	5	4

Scorch						
	1 DAT	3 DAT	7 DAT	15 DAT	28 DAT	50 DAT
100g/m ²	2	2	3	2	3	3
200g/m ²	3	2	2	2	2	3
Untreated	3	2	3	2	3	3

DAT: Days after treatment

Conclusion and discussion:

The application of double the suggested rate of application had no adverse effect on the turf. The predominant grass species in the sward were perennial ryegrass, creeping bent and annual meadow grass. Further feedback may be required from application in practical situations; to assess deicing performance as well as any potentially deleterious effect on turf of different composition.