



## **Autumn Pasture DM Production**

Measured Comparison of ASN Cold Start and Ammo 31

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# Introduction

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## *What is ASN?*

ASN is rapidly acting Ammonium Sulphate Nitrate compound fertiliser made from a chemical melt of Ammonium Nitrate and Ammonium Sulphate. ASN will optimise pasture response in cold conditions with lower total nitrogen applied in both autumn and spring fertiliser when compared to Ammo 31. This trial was designed to illustrate the superior pasture growth rates from using ASN Cold Start when compared to Ammo 31.



# Method

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This trial was conducted in Mid- Canterbury New Zealand on 4ha dryland pasture. The paddock had not received any capital fertiliser for approximately 10 consecutive years. The pasture sward consisted of perennial ryegrass (*Lolium perenne*), cultivar Nui, White clover (*Trifolium repens*) and Chicory (*Cichorium intybus*). The 4ha paddock was divided equally into 3 sections. Section 1 received 150kg of ASN, Section 2 received 150kg Ammo 31, and Section 3 was the untreated Control. Both fertilisers were applied using a Bredal Spreader under clear, calm weather conditions on the 24th April 2018.

## ***Total Nutrients Applied (kg/ha)***

- ASN Cold Start provided    39 N and 21 S
- Ammo 31 provided            46 N and 21 S

Subsequent measurement of pasture growth was conducted at regular intervals using a Jenquip Electronic Folding Plate Meter. 80 readings were made for each section on three separate dates.



# Results

Results showed an increase in pasture growth rate for both fertiliser treatments. However the ASN treatment shows a larger and much quicker response.

This is because ASN Cold Start contains 7% Nitrate nitrogen which is immediately available. This increases pasture uptake in the first 10 days giving leafier growth earlier with no lag phase.

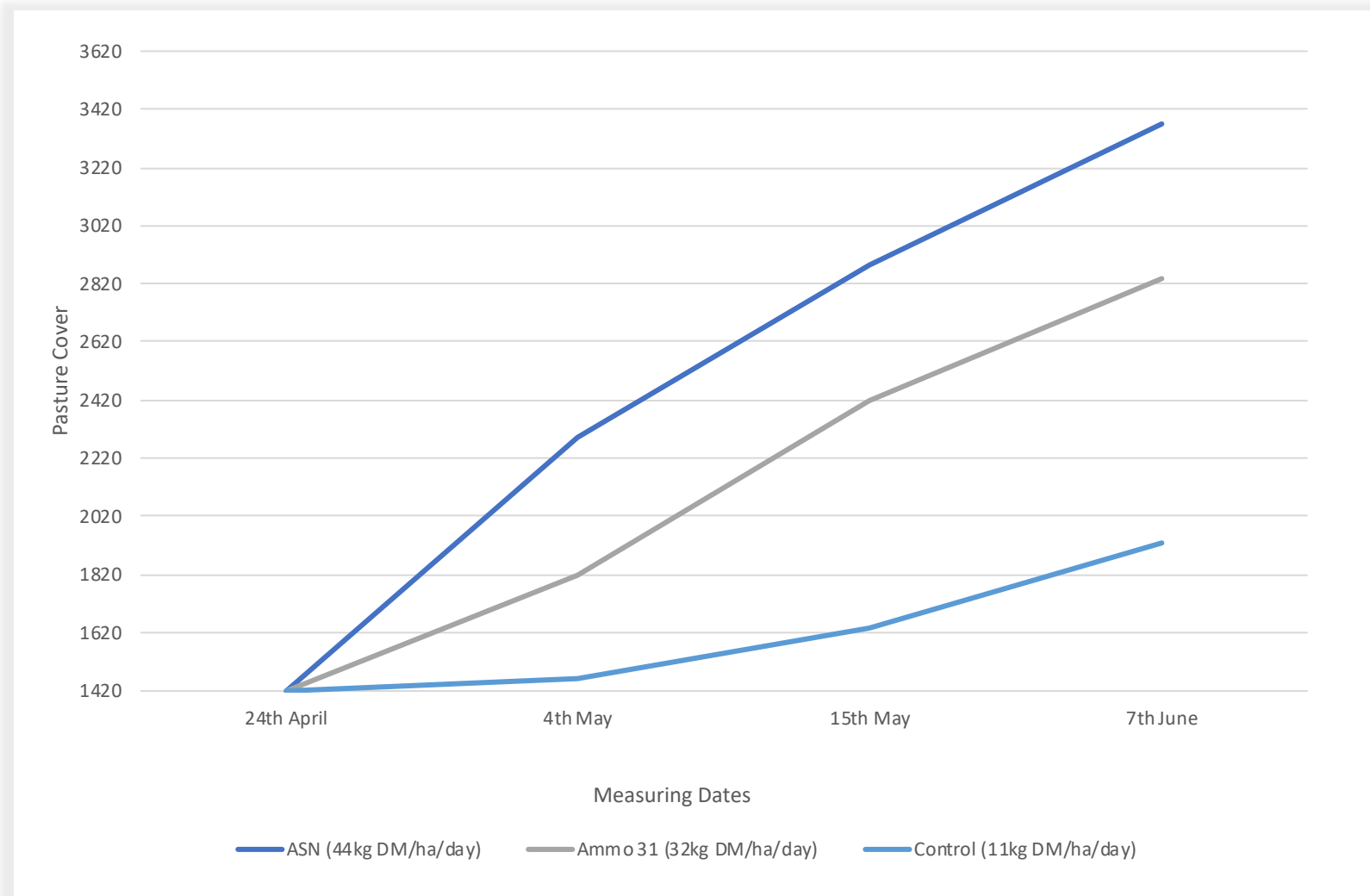
NOTE: Ammo 31 does not contain Nitrate nitrogen, so pasture growth response is slower. The total DM response is 37% smaller from Ammo 31 than ASN Cold Start applied at 150 kg/ha.

	Growth Rate kgDM/ha/day & Pasture Cover (kgDM/ha)				Average Daily Pasture Growth Rate (total extra growth)
Treatment	24 Apr (application)	4 May (+10 days)	15 May (+21 days)	7 June (+44 days)	
ASN @ 150 kg/ha N-P-K-S 26-0-0-13	(1420)	87 (2293)	52 (2886)	22 (3370)	44 (1441)
Ammo 31 @ 150kg/ha N-P-K-S 31-0-0-14	(1420)	40 (1820)	54 (2418)	18 (2838)	32 (909)
Control NIL Fertiliser Applied	(1420)	4 (1460)	16 (1634)	13 (1929)	11

**Table 1:** Measured Pasture Growth Rate (kg DM/ha) comparing autumn application of ASN Cold Start with Ammo 31.

# Results

As displayed in Fig. 1, the readily available Nitrogen and Sulphate in ASN is giving significantly higher pasture growth rates within 10 days of application.



**Figure 1:** Total Cumulative Pasture Growth Rate kg DM/ha. Comparison of ASN Cold Start , Ammo 31 & Nil Fertiliser Applied