



Issued: 9th November 2021

FERTILISER SPECIAL

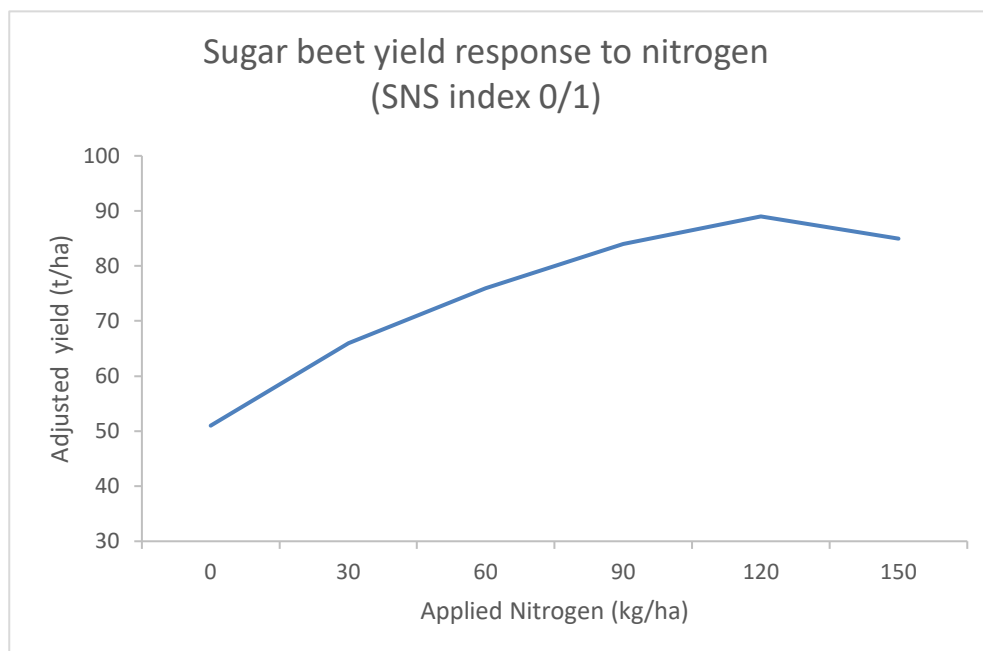


ADVISORY

Fertiliser prices and fertiliser rates for sugar beet in 2022

With the unprecedented increase in fertiliser prices, BBRO have reviewed sugar beet crop responses and current fertiliser recommendations. A detailed technical review is available on the [‘Opinions’ section of the BBRO website.](#)

- There is a very reliable and consistent trial data on which to base the nitrogen response in sugar beet. Typically, the N response shows a strong linear response up to 100kg N/ha followed by a much shallower response to 120 kg N/ha. Trial data shows very few consistent yield responses above 120kg N/ha.



- A summary chart based on incremental crop returns at different nitrogen rates and nitrogen fertiliser prices highlights in red those rates and fertiliser prices where crop responses are unlikely to be economic. The orange signifies borderline scenarios which depend on the responsiveness of different soils.

N cost/tonne	250	300	350	400	450	500	550	600	650	700
N/kg cost (AN 34.5%)	0.72	0.86	1.01	1.15	1.30	1.44	1.59	1.73	1.88	2.02
Nitrogen rate kg N/ha	Total £/ha									
60	43	52	61	69	78	86	95	104	113	121
75	54	64	76	86	97	108	119	129	141	151
90	65	77	91	103	117	130	143	155	169	182
100	72	86	101							
120	86	103	121	138	156	172	191	207	225	242

- This indicates that economic optimum is less than the 120kg N/ha and the opportunity to reduce rates to 90-100 kg N/ha is a sensible compromise for most crops.
- This is based on a typical nitrogen response on soils with a SNS Index of 0 & 1 soils, using a typical nitrogen response curve of crops with yield levels of 80-85 t/ha and beet a price of £25/t.
- In crops, where the nitrogen response is thought to be greater than average and/or there are concerns about yield loss, a spring SMN test will provide information on available soil N levels. Data indicates that soils with SMN levels below 40 kg N/ha are more responsive, and you should be more conservative in reducing nitrogen rates. *Guidelines on testing for SMN can be found on the BBRO website as part of the [technical article on fertiliser reductions in the 'Opinions' section.](#)*
- Taking a P & K 'holiday' is an option on Index 2 soils where responses are very shallow. Applying some potash will be required at Index 0 & 1 soils to protect yields. Be wary of cutting back potash by more than 50% of the recommended rates in these situations. Reducing potash rates below current recommendations will require replenishment of potash offtake if you don't want to run down indices. Providing a small amount of P (30-40kg/ha) especially at low indices will help ensure P-availability to young establishing plants, especially in challenging seedbeds.

A check list on how to avoid using too much fertiliser in 2022.

1. Make sure you classify your soil accurately into the right SNS index based on previous cropping soil type and winter rainfall. Use The Nutrient Management Guide (RB209) as your reference.
2. Account carefully for any N from organic manures and adjust applied nitrogen rates accordingly. It is more reliable to analyse the manure, you plan to apply but make sure you take a representative sample. Alternatively use a standard value from RB209 or use software to help assess nutrient availability but this will be more variable.



The Farm Crap App is a free app that enables you to visually assess manures and slurry applications (rates) and calculate what is being provided in terms of total and crop-available nutrients. You can select different seasons, types of manure(s) and crops growing to see what the manure will provide in terms of fertiliser value. The app is available on Apple and Android devices, through the iTunes or Google Play stores.

MANNER
-NPK

MANNER-NPK is a free practical software tool that provides farmers and advisers with a quick estimate of crop-available nitrogen, phosphate and potash supply from applications of organic materials. MANNER-NPK is applicable in England, Wales, Scotland and Northern Ireland
planet4farmers.co.uk/manner

3. Remember to consider and adjust for any N contribution from overwinter cover crops. Cover crops can help to reduce nitrogen leaching overwinter and add nitrogen to the soil. Inclusion of legumes will add more nitrogen. Typically, 30-80kg N /ha can be fixed in the autumn by a good legume-based cover crop. A SMN test in the spring will help identify nitrogen levels and potential savings. Nitrogen lock-up is not usually an issue where a five-to-six-week gap is maintained between cover destruction and drilling of sugar beet. High C:N ratio cover crops such as woody brassica species may need longer.
4. Avoid extremes of pH to avoid N losses and poor availability inefficient use of N
5. Check spreading equipment are carefully calibrated
6. Placement of some of the nitrogen N has shown that crops use N more efficiently and reduction in rates of 10-20% have been achieved where placing nitrogen in a band to the side and below the seed. Commercial BBRO strip trials have reduced rates from 120 to 90 kg N/ha with placement. There is limited data on reducing rates more than this with placement
7. Avoid any N leaching losses. On leaching-prone soils, aim to apply at 30-50kg/ha at drilling to support early growth and to help avoid any leaching losses. Apply the remaining nitrogen at crop emergence.



EVENTS

BeetTech22

PLAN + PROTECT + PERFORM






Virus Yellows:
2022 projections.
Management, mitigation
and solutions

PhD showcase:
Varietal advancements and improved
understanding of pests and diseases, plus new
technologies

Weed Control
Herbicide specialist Pam Chambers (UPL)
provides an insight to optimising control of
weeds and costs

Foliar disease:
Targeting the risk

**Featuring collaborating
industry partners, posters, networking
and interactive displays**

9:00 - 12:45

Refreshments from 8:30

8th February 2022
Norfolk Showground

10th February 2022
Newark Showground





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