

Dyson & Bionature Potato Days Trial September 2024



Trial purpose

- Demonstration of efficacy of Bionature spray programme on potatoes.
- Trial set up by Bionature UK Ltd.
- Trial location Dyson Farm, Lincoln. Part of Potato Days field demonstration.
- Trial plots, planting and spray operations conducted solely by Dyson in house field trial team .
- Two plots compared - Dyson standard programme vs. Dyson standard programme plus Bionature spray programme.



Treatment Comparison - variety DAISY

DYSON CONTROL PLOT

- Starter fertiliser (28kg N + 80kg P₂O₅ /ha)
- Nuram applied at 50kg N/ha
- A standard programme for late blight control applied to the whole site.
- The first two blight control applications contain foliar magnesium.
- Drip irrigation.

BIONATURE TRIAL PLOT

- Dyson control programme plus ...
- Leodita applied at planting 2.5 l/ha
- NH Delta Ca programme 6 x 2.5 l/ha
- 1-4-All 6 x 1.0 l/ha
- XStress 4 x 1.0 l/ha
- CalFlux 4 x 1.0 l/ha

Visual comparison of foliage 30th August



Dyson programme

Bionature programme

Yield comparison - 30th August

Total yield increase of 36%



Dyson control plot (4m row dig) - 35.6 t/ha



Dyson control plus Bionature programme (4m row dig) - 48.3 t/ha

Second dig - 3rd September



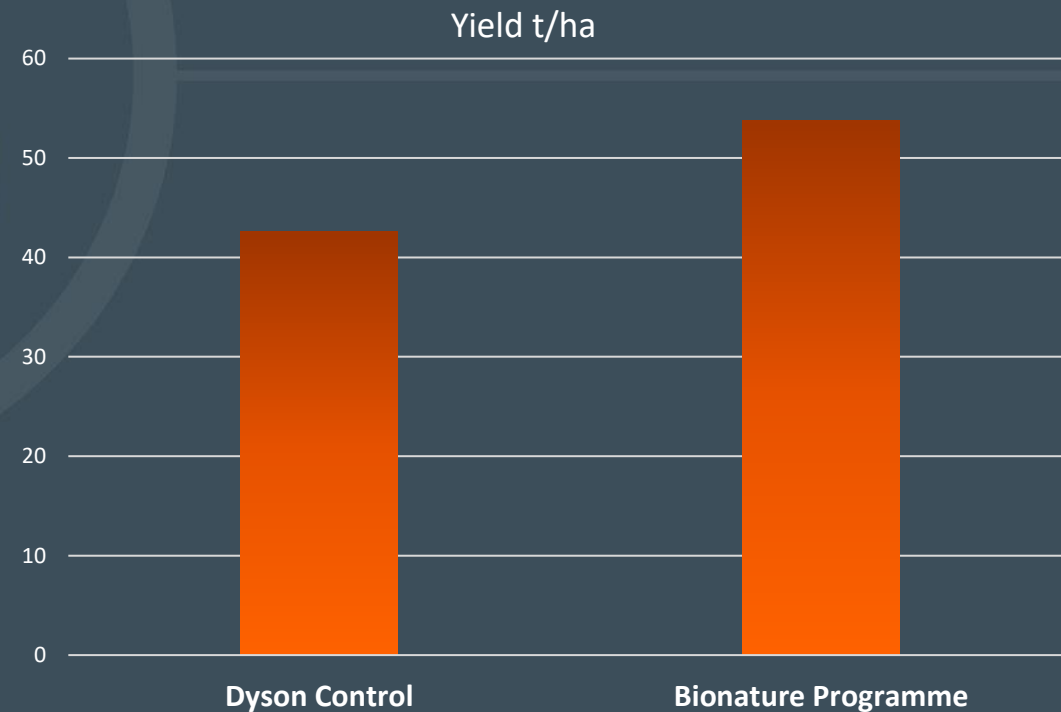
Dyson programme



Bionature programme

Final yield results

- Mean average of 3 digs, 30th August and 3rd September.
- Yield increased by 11.2 t/ha.
- On average an increase in yield of 26%.



Comparison of waste (< 45mm grade)

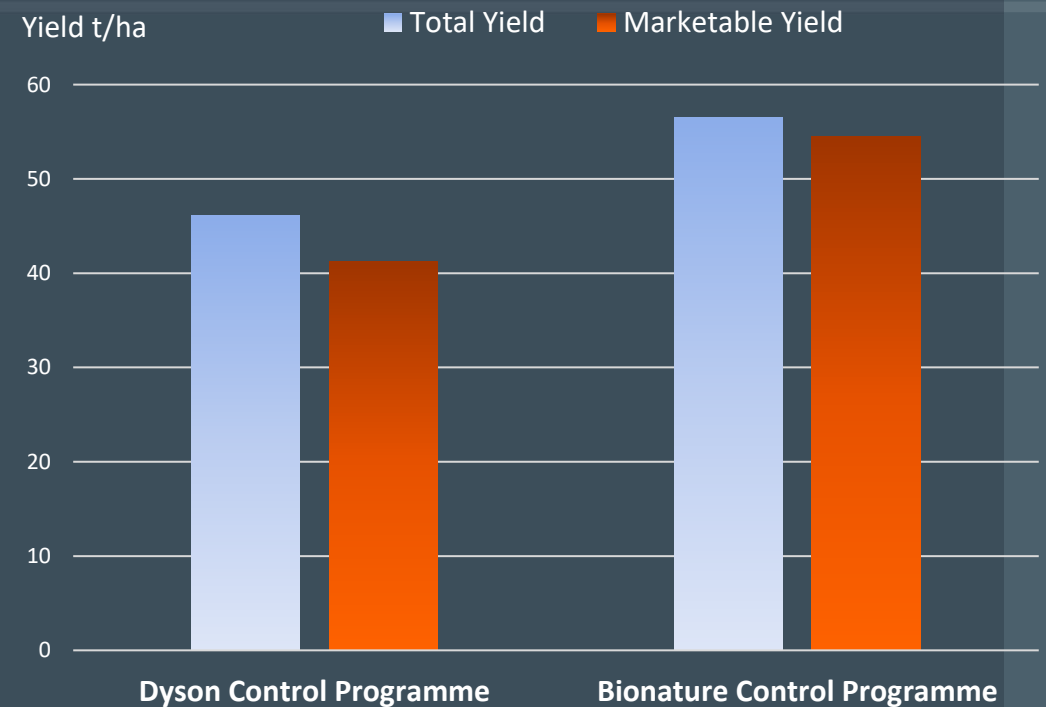


Dyson programme

Bionature programme

Less waste - more crop

- Average results of two digs, 3rd September.
- Number of tubers below 45mm grade (waste) decreased from 10.4% in the control to 3.6% in the treated.
- Overall waste reduced by 2.8 t/ha.
- Marketable yield increased by 32%.



Improved NuE (nitrogen use efficiency)

- Total nitrogen applied in Dyson programme is 78 kg/ha with a yield of 42 t/ha.
Equivalent to 1.8kg N / tonne potato .
- Total nitrogen applied in Bionature programme is 80.8 kg/ha with a yield of 54 t/ha.
Equivalent to 1.5kg N / tonne potato .
- Use of the Bionature programme has improved NuE by 20%.



Summary

- Trial operations conducted solely by Dyson farm field research team.
- Results show the full Bionature spray programme increased yield by on average 26% but marketable yield increased by 32% (13.2 t/ha).
- Waste was reduced by 57% (2.8 t/ha).
- Environmental impact of nitrogen was reduced by increasing yield and improving the NuE by 20%