

Bolder seeds bring better results

A new independent trial carried out by the National Association of Agricultural Contractors (NAAC) has proven that larger seed sizes of typical UK varieties of winter wheat and spring barley resulted in higher emergence rates, increased initial vigour, longer initial root and shoot lengths, higher root and shoot mass, greater initial tillering and greater initial leaf number.

- Extase and Propino samples were sent to SGS for sorting and grading
- Each sample was graded into 4 fractions; heaviest to lightest
- The fractions were tested for thousand grain weight (TGW), germination and emergence
- Seed was then sown and performance was monitored regularly.



Results highlighted larger seed sizes were proven to have higher germination, higher vigour and improved emergence compared to small seed sizes of the same lot:

Wheat	% Germination	% Emergence	Vigour
Fraction 1: TGW 60	85	90	96
Fraction 2: TGW 40	75	90	95
Fraction 3: TGW 28	70	80	81
Fraction 4: TGW 16	32	24	30

Barley	% Germination	% Emergence	Vigour
Fraction 1: TGW 50	92	92	94
Fraction 2: TGW 36	86	88	87
Fraction 3: TGW 26	80	80	80
Fraction 4: TGW 15	70	70	70



Whilst the industry may be questioning the need to have farm saved seed treated and cleaned, results clearly highlight the importance of only filling the drill with viable seed. Professional seed cleaning will help ensure the maximum potential of the crop can be maintained, selecting out bolder, larger seeds:

Germination – increased germination rate in larger seeds

Emergence – increased emergence with increasing seed size

Vigour – increased initial vigour with larger seed sizes

Leaf and root length – linear increase in leaf length with increasing seed size

*Top row – winter wheat – left to right
Fraction 1 (largest) to Fraction 4 (smallest)
Bottom row – spring barley – left to right
Fraction 1 (largest) to Fraction 4 (smallest)*

Rooting length decreased with a reduction in seed size for the first two assessments. By the third assessment any differences were minimal. It is likely that at this point in the trial recovery of the roots was compromised by the equipment set up and that pot size was limiting root growth at the later timings.



Conclusions

Based on the results in this trial, it is expected that a crop drilled with smaller seed, or an uncleaned seed batch would result in a lower yield and perhaps lower quality of harvested grain than a crop drilled from a larger or cleaned seed batch. Small seeds in the drill are then effectively taking up space that could be occupied by a larger, more productive product.

It is vital that the industry looks hard at the farm-saving economics. Whilst costs can be cut by barn dipping, this may be a very short-sighted gain. NAAC results clearly show that seed that is cleaned and of a larger size will put the crop at a competitive advantage by having initial growth gains. These

bigger leaved and high tillering plants will also compete more vigorously with nuisance weeds like black grass.

Farmers should consider using a professional mobile seed contractor if intending to farm save, not only to select out larger more productive seeds, but also to remove weed seeds, stones and rubbish to maximise yield potential. Agronomic progress is moving on at a pace and growers must start with the basics of selecting the best possible seed sample to put in the drill.

To locate an NAAC mobile seed processor see: www.naac.co.uk/findacontractor/

IT PAYS TO USE A PROFESSIONAL

