

PRINCE, JOHN, British Sugar plc, P. O. Box 26, Oundle Road, Peterborough PE2 9QU, United Kingdom. The commercial experience of primed advanced sugar beet seed (PAT) in the UK.

Adequate plant populations are important in maintaining consistently high yield in the UK. Early drillings in the UK can also lead to higher yields; a mean increase of 0.02 +/-ha of recoverable sugar is gained for each day the drilling date can be brought forward in March. There is however increased risk in sowing in early March from (a) low and non-uniform plant population, and (b) a higher level of bolting, caused by exposure to cold and wet conditions. Priming advancement treatment was developed by Broom's Barn Experimental Station to help reduce the detrimental effect of these constraints to early drilling. (Durrant and Jaggard J Ag Sci (Camb), 1988 110; 367-374). In extensive field trials since 1988 British Sugar has evaluated PAT in combination with the commercial pelleting system. Using seed bulks of commercial quality, compared to standard (steeped) pellets. [1] PAT consistently speeds emergence, typically by 2-4 days at the 50% stage and under situation of high stress then 7 days advancing has been observed. [2] There is usually little effect on final establishment from a PAT treatment. [3] PAT increases foliage cover at the end of May and the amount of light intercepted by the crop, May and June. [4] Seed treated with PAT appears to have fewer bolters when the crop experiences fewer than 40 cool day (mean temperature below 12°C). PAT has been a commercially available treatment to UK growers for three years, produced as pelleted seed by Germains UK. Usage has increased from 600 units in 1995 to 10,000 units in 1997, particularly by growers in Eastern England who can normally drill early.