

MEPIQUAT PENTABORATE FOR USE IN COTTON CULTIVATION

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ABSTRACT

Mepiquat chloride (MQC) was commercially introduced under the trade name Pix[®] for vegetative growth control in cotton in the USA in 1980 and has, since, become a cornerstone in modern cotton production. Another variant is mepiquat pentaborate (MQB) (trade name Pentia[®]), which has just been introduced in the USA. The pentaborate form of mepiquat is showing a superior performance under field conditions as compared to its chloride salt.

Mepiquat is absorbed more rapidly in the presence of pentaborate. Radiolabeled studies indicate an increase of 20 % greater uptake. As a result, shoot growth is inhibited more intensively.

Another positive effect of faster uptake is improved rain-fastness. The anion pentaborate provides some boron, which, under boron deficiency, may be of nutritive value. Finally, MQB is a non-hygroscopic salt, which would allow for a production of granular formulations.

MQB results from 83 studies conducted across the cotton belt in 2003 indicated a 19% increase in earliness or 3 – 5 days earlier harvest over other Mepiquat brands. Yields taken from 76 of the 83 locations established provided an increase of 73 pounds lint cotton (5.8% increase) as compared to other mepiquat brands.

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