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Wick Applicator for Applying Mepiquat Chloride on Cotton: II. Use in Existing Mepiquat Chloride Management Strategies

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Mepiquat chloride (1,1-dimethylpiperidinium chloride) is widely used in cotton (*Gossypium hirsutum* L.) to control excessive vegetative growth. One way to apply mepiquat chloride is with a wick applicator mounted at a specific height on implements or sprayers. Two experiments conducted in 11 environments compared wick application of mepiquat chloride to a conventional spray application in three mepiquat chloride management strategies and investigated the effect of setting the wick at two heights for cotton. In one experiment, mepiquat chloride did not affect yield regardless of application system when applied at 9 to 10 nodes and/or early bloom. Plant height was reduced by mepiquat chloride applied with a wick at 9 to 10 nodes more than by a spray application or a two-step approach of a spray followed by a wick application at early bloom. Height-to-node ratio, main-stem nodes, and nodes above white flower were reduced by mepiquat chloride irrespective of delivery system. In the second experiment, setting the height of the wick to touch the top 8 cm of the plant reduced yield compared with a spray in one of six environments. Setting the wick to brush the top 24 cm reduced yield in two environments. There was no difference in yield between wicking the top 8 cm and the top 24 cm. These data suggest that reduced plant height is the major difference that occurs between wick and spray delivery systems, and the wick should be set to treat only the top 8 cm of the plant.