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## Chemical Delinting Enhances Uniformity of Seed-dressing and the Phytopathological Protection of Field-grown Cotton

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### Abstract

Modern seed dressings provide a broad and defined protection against diseases and pests of cotton. Main problems to be addressed by seed dressing include diseases of the foot root complex with *Rhizoctonia*, *Fusarium*, *Phytophthora* and *Pythium* and early sucking pests like aphids, white flies and thrips. Precondition for a uniform and effective protection of the young cotton plants against these pests and diseases is a uniform loading of the seeds with the agrochemicals. Tests were conducted to identify the possible factors resulting in uneven seed loading in various steps of the processing line. These included remnants of lint on the seed surface, large diameter of the seed, and variable amounts of dust on the seed.

The main reason for an uneven agrochemical load of cotton seeds was related to the unevenness of the lint remaining on the seed coat. The removal of this lint with sulphuric acid resulted in the highest level of evenness in chemical seed loading and provided the highest uniformity in the protection and performance of field-grown cotton. However, for seeds to be able to germinate, it is important that the acid is completely neutralised, which may be achieved with calcareous slurry or with  $\text{NH}_4$ —gas. Chemical delinting, acid neutralisation and subsequent seed dressing with agrochemicals can all be achieved with the batch treater technology, which is suited for both commercial companies and for individual cotton growers. It may be concluded that chemical delinting is a precondition for an even agrochemical load and hence an even protection and uniform growth performance of field-grown cotton.

**Keywords:** Batch treater, *Gossypium hirsutum*, seed treatment