

DANIELS, JEFFREY L.*, and MICHAEL R. SCHWARZ, Bayer CropScience, 2 T.W. Alexander Drive, Research Triangle Park, NC 27709. **Relationship of clothianidin plus beta cyfluthrin, combined with build-up coating options, to germination and field emergence of *beta vulgaris* seeds.**

ABSTRACT

Sugar beet seed is routinely treated with some level of build-up coating. Seed applied fungicides and insecticides may be a part of this application. It will be important to understand the role that the combination of clothianidin + beta cyfluthrin (Poncho Beta) and seed buildup options play on germination and field emergence. Seven seed sources were obtained from two sugar beet seed suppliers. Each seed source was treated with either fungicide-only (thiram + metalaxyl) or fungicide + Poncho Beta (68 g ai/unit of beet seed) and with one of three buildup options (approximately 10%, 35 % weight gain, or 4m pellet) for a total of six treatments. Field studies were planted near Prosper, ND and Redfield, IA. Germination testing was performed by Germain's Technology Group (GTG) or Bayer Crop Science (BCS) laboratories. Stand count results show that there were significant differences ($P \leq 0.05$) between treatments and between varieties. Poncho Beta produced numerically, if not significantly, higher stand for each comparison at both sites although the amount of buildup was not important. Germination testing also indicated that the level of buildup did not affect germination. Poncho Beta produced a slight, but significant germination delay at day 4 counts in the laboratory. By day 7, there were no significant differences between fungicide-only and fungicide plus Poncho Beta. This is true across results from both laboratories. Field emergence results, combined with laboratory germinations, suggest that the level of weight gain build-up is not important when Poncho Beta is applied to sugar beet seed. This finding does not take into consideration the amount of weight gain buildup necessary to achieve satisfactory plantability. It is quite possible that the lowest level of buildup, combined with Poncho Beta, would not provide acceptable plantability.