Agronomic Comparisons of Extra Dense Pubescence Soybean. (C01-pfeiffer065053-Oral)

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Abstract:

Normal soybean leaf pubescence density is 150 trichomes per square cm. Dominant alleles at two genes (Pd1 and Pd2) both increase the density to 1500 trichomes per square cm. The two genes are additive producing 3000 trichomes per square cm. Extra-dense pubescence reduces SMV spread and has been hypothesized to provide a degree of drought tolerance. Soybean lines with increased pubescence have been previously noted to grow taller and lodge more than lines with normal pubescence. The Clark isoline with extra-dense pubescence has leaves which are noticeably smaller and more rugose than the isolines with dense or normal pubescence. This study compared ten lines in each of four pubescence classes: normal, dense, extra-dense with non-rugose leaves and extra-dense with rugose leaves, from the second cycle of crossing Clark Pd1Pd2 to high yielding cultivars. Lines with extra-dense pubescence had similar crop growth rates, node numbers and plant heights as lines with dense and normal pubescence. Lines with extra-dense pubescence were competitive in yield with lines with normal and dense pubescence. Extra-dense lines with rugose leaves were not at an agronomic disadvantage.

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