

RELATIONSHIP OF SEED-PLACED PHOSPHATIC FERTILIZER SALT INDEX TO CROP EMERGENCE

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Abstract

The role of fertilizer salt index in salt injury to germinating seeds has been recognized for over 60 years. Recent increased use of direct seed placement of fertilizer P has produced a need for a simpler method of making seed-placed fertilizer recommendations. Numerous field studies were conducted utilizing seed-placed P fertilizers. Published fertilizer salt index values were multiplied by the P_2O_5 /ha application rate to give a salt index/ha value. Relative plant stand (dependent variable) was linearly regressed with the salt index/ha value. Slopes from these regressions were used to develop crop index factors that define crop sensitivity to P fertilizers placed with the seed. A method to estimate the amount of phosphate fertilizers to apply with the seed will also be presented.

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