

Relationship between the population of *Ralstonia solanacearum* in soil and the incidence of bacterial wilt in naturally infested tobacco fields

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Population of *Ralstonia solanacearum*(Rs) in soil is very important as a primary inoculum source of bacterial wilt in tobacco fields. Soil samples were taken to determine the population of Rs, physical properties and chemical components during the tobacco growing season from the fifteen fields located at flue-cured tobacco growing area in Ansung of Kyunggi and Wonju of Kangwon province, respectively. Two of the surveyed tobacco fields were bacterial wilt free, six had lower or 10% plants diseased and seven over 10%. The Rs population level determined by using SMSA-E medium generally showed an up-and-down pattern as high in May, low in Jun, high in July and low in August. The soil population in May and June showed positively correlation with incidence of bacterial wilt($r=0.5712^*$, $r=0.688^{**}$) but P_2O_5 content of soil negatively correlated with the disease incidence($r=-0.5390^*$). These results suggest that Rs population in soil examined in May or June, and the P_2O_5 content in soil may be key factors to determine the bacterial wilt potential of tobacco field.