

B13: poster

Evaluating long pepper (*Piper* sp) resistance to bacterial wilt caused by *R. solanacearum*

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Bacterial wilt caused by *R. solanacearum* was recently found in long pepper (*Piper hispidinervum*), a shrubby plant species native to the state of Acre, which is cultivated commercially for extraction of essential oil rich in safrol. Planting of resistant varieties may be the most economic and efficient disease control measure for the farmers in order to maintain high crop productivity. This study had the objective of evaluating and identifying progenies and/or populations of long pepper resistant to bacterial wilt. It initially isolated the bacteria from the base of the stems of plants of long pepper with symptoms. This material was kept in Kelman's culture medium in growth chambers at 28°C for 48 hours. The experiment was established in a greenhouse using a complete block design with three repetitions. The plant materials evaluated consisted of 25 natural populations and 28 progenies of opened pollination of *Piper hispidinervum* and 13 progenies of *Piper aduncum* from the Active Bank of *Piper* Germplasm of Embrapa Acre. The inoculation was accomplished by sectioning the roots of the plants of long pepper with 45 days of age and immersing them in a 10⁸ CFU/ml bacteria suspension for five minutes. Afterwards, the plants were transplanted to plastic vases (0,5 liters) with autoclaved soil in a greenhouse. Plants were evaluated from 6-30 days after inoculation, using a scale ranging from 1 to 5. The index of bacterial wilt (IBW) was calculated by the formula $IBW = (C \times P)/N$, where C is the attributed note to each symptom class; P is the number of plants in each symptom class, and N is the total number of infected plants. The results show significant ($P > 0,05$) differences among progenies, among populations of *P. hispidinervum* and also among progenies of *P. aduncum*. The IBW of progenies of *P. hispidinervum* ranged from 2,67, for progeny 10, to 5,0, for progenies 53, 24, 25, 1, 22, 29, 30, 26 and 28. In the evaluation of the populations of *P. hispidinervum* the IBW ranged from 3,80 for population 106 to 5,0 for populations 115, 123, 125, 119, 122, 30, 29, 22, 114, 103, and 31. These populations also presented high IBW, indicating that this disease can become a serious problem for the long pepper crop, since among all the evaluated materials, we identified no progenies or population resistant to the disease. In the progenies of *P. aduncum*, the IBW ranged from 1,53 for progeny 12 to 5,0 for progenies 7, 9 and 10. Progeny 12 had a smaller IBW, and was considered as resistant, while the others had high IBW. We conclude that all the 28 progenies and 25 populations of *P. hispidinervum* were susceptible to the isolate of *R. solanacearum* at a concentration of 10⁸ CFU/ml. Only progeny 12 of *P. aduncum* was resistant to the isolate of *R. solanacearum* at this concentration.