



Development of Anthracnose Resistant Chili Pepper Varieties at AVRDC-The World Vegetable Center

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With the identification of good sources of resistance to Anthracnose, and the development of repeatable screening methodologies, AVRDC has pursued a program to develop and release chilli pepper varieties carrying resistance to Anthracnose. Interspecific cross between *Capsicum annuum* and *C. chinense* (PBC932), was followed by three backcrosses to *C. annuum*, producing a small number of selections displaying lab-based resistance equivalent to the *C. chinense* parent. One of these lines was used in inheritance studies, which have documented genetic control by at least one major gene, and evidence of independent control of resistance at immature green and mature red fruit stages. That mapping population generated AFLP-based molecular markers associated with green fruit resistance in progenies derived from PBC932. Resistance derived from *C. chinense* PBC932 has tended to be associated with irregular fruit shape, which is improving with continued backcrossing to elite *C. annuum* parents. Five lines have been released for public evaluation and use, mainly through AVRDC's International Chili Pepper Nursery program. Lines carrying resistance to other diseases, including CMV, CVMV, PVY, Bacterial Wilt, and *Phytophthora capsici*, in backgrounds popular in India and Thailand are being advanced.