# Interspecific Hybridization of a White-Flowered, Cold-Hardy *Alstroemeria*©

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*Alstroemeria*, the Inca lily or lily-of-the-Incas, is becoming a popular garden plant in the United States. In past years, the primary interest in *Alstroemeria* has been for its cut flowers. However, recent cold-hardy introductions (U.S.D.A. hardiness Zone 5) have expanded the interest of this colorful plant as a garden perennial throughout the United States. Previously, garden interests were restricted to warmer zones in the southern United States where *Alstroemeria* could overwinter. This research describes a breeding procedure that has been used with the objective to develop a cold-hardy, white-flowered *Alstroemeria*. The interspecific hybrids were bred with the use of in ovulo-embryo rescue. Reciprocal crosses were made between several white-flowered cultivars and the cold-hardy Chilean species, *Alstroemeria aurea* during 2004 and 2005. Ovaries were collected 10–23 days after hand pollination, and their ovules were aseptically excised. Ovules were placed in vitro on 25% Murashige and Skoog (MS) medium under dark conditions until germination. After germination they were then placed on 100% MS medium, and subcultured every 3 to 4 weeks thereafter until they were large enough for rooting. After rooting and acclimation, plants were transferred to the greenhouse. Successful hybrids that were produced in 2004 were evaluated under greenhouse and field trials during 2005, and the number of plants with white-colored flowers was noted. Although certain morphological characteristics indicate if plants are cold hardy, the hybrids will be over-wintered outside in Ithaca, New York (USDA Zone 5) during the next several years to determine winter hardiness.