Tree Growth Characteristics and Flower Bud Differentiation of Sweet Cherry Germplasm Collection in South Korea

Eun Young Nam*, Jung Hyun Kwon, Jae Yeon Youn, Seok Kyo Yoon, Sung Jung Kim, and Seung Yeob Song

1National Institute of Horticultural & Herbal Science, RDA, Wanju 53565, Korea,
2Muju-gun Agricultural Extension Service Center, Muju 55517, Korea

Sweet cherry (Prunus avium L.) is an emerging crop as one of the most commercially important species although cherry is a minor crop in South Korea. Recently the area of domestic cherry cultivation has increasing every year as the consumption of imported fresh cherry increases considerably. Fresh cherry was imported about 18,066 ton according to trade statistics (Korea Custom Service, 2018) and the current production area was estimated to be about 600ha. Until 2011 we have been evaluated the phenotypic traits focused on fruit quality in sweet cherry germplasm collections and then started sweet cherry breeding program in 2012. The main goals in sweet cherry breeding program are large size, long shelf life, self-compatibility, early maturing, low fruit cracking in rainy season, and high yield. It is important to select good breeding materials adapted under domestic climate conditions because it is related with tree growth, fruit set, and productivity. We evaluated the tree growth characteristics, tree vigor, flower bud differentiation, and the resistance to bioic stress such as degree of susceptibility to bacterial leaf spot and abiotic stress. In general, sweet cherry cultivars originated from Japan were tended to be better tree vigor and flower bud differentiation. We will select the final breeding materials and recommend cherry cultivars to farmer taking into account fruit quality as well as tree growth characteristics, yield per unit area, and the resistance to bioic and abiotic stress.

T. 063-238-6733, eynam@korea.kr