

WEED CONTROL IN TRANSPLANTED JUNE BERRY. Harlene M. Hatterman-Valenti, Assistant Professor, Plant Sciences Department, North Dakota State University, Fargo, ND 58105.

Few weed management options in juneberry or saskatoon (*Amelanchier* spp.) orchards have limited the potential for this new crop in North Dakota. Field trials have been initiated to evaluate the efficacy and crop safety associated with chemical and non-chemical weed control treatments. Non-chemical treatments consisted of strips of black fabric or black plastic, wood chips applied to a 10-cm depth, hand weeding (hoe), and an untreated. Chemical treatments consisted of two rates of azafenidin, flumioxazin, norflurazon, and oxyfluorfen, and one rate of oryzalin and trifluralin. Treatments were applied just prior to or immediately after transplanting. All plants were physically protected from herbicide spray contact when applications were made after transplanting. Black fabric, black plastic, hand hoeing, azafenidin, and flumioxazin provided season-long annual broadleaf and grass control at all locations. Oxyfluorfen provided season-long annual broadleaf and grass control in 2001 but not 2002. Perennial weed emergence and small animal digging opened the wood chip barrier allowing annual weed emergence in 2001 at one location. A consistent thick layer (10 to 14-cm depth) of wood chips in an area free from perennial weeds is needed for season-long weed control with this treatment. Crop health was difficult to assess. Visually evaluations indicated that azafenidin and flumioxazin injured juneberry during 2001. However, the percent of live plants in the treatments eight weeks after application were not different from the non-chemical treatments suggesting that other factors were involved in overall plant health. Further investigations under controlled environmental conditions are needed in order to determine crop safety with these herbicides and to assess plant needs for establishment.