Genotyping-by-sequencing and its application to asparagus breeding program

Objectives of asparagus breeding programs worldwide include improved yield, quality, longevity and disease resistance. Understanding the genetic architecture of these traits as well as those that support the development of hybrids, such as tissue culture response and andromonoecy, the production of berries on male plants, would facilitate cultivar development. Limited mapping studies have been published in asparagus, however, methodologies such as genotyping-by-sequencing (GBS) can accelerate genetic analyses and cultivar development. GBS is a simple system for developing molecular marker maps and quantitative trait loci identification in a range of plant species including those with complex genomes such as asparagus. It also allows diversity analysis at a depth not possible with previous methods. This poster will present some preliminary data for association mapping and diversity analysis in asparagus.