**ALA12.1 Use of marker for patent protection**

**Prerequisites**

Understanding of:

1. Role of international agencies (e.g., ISF, OECD, UPOV, AOSCA) involved in setting policies, regulations and rules for
   * certified seed production
   * variety registration
   * variety protection
2. Use of genomic tools for monitoring and detecting absence or presence of transgenes and learn the concept of coexistence in relation to production and marketing of genetically modified (GM) and non-GM crops
3. Use of DNA and non-DNA markers for variety registration and variety protection

Read:

Pallottini, L., E. Garcia, J. Kami, G. Barcaccia and P. Gepts. 2004. The genetic anatomy of a patented yellow bean. Crop Science. 44:968-977. Available online at <https://dl.sciencesocieties.org/publications/cs/articles/44/3/968>.

**Purpose**

Expose students to use of molecular markers for variety protection (here: patented varieties).

**Background**

In some countries like the U.S., varieties can be patented. Protecting patents based on phenotypic data alone can be difficult. DNA markers are a useful tool to determine whether two varieties can be considered distinct or identical.

**Tasks**

This ALA refers to the Pallotini et al. (2004) article in Crop Science, "The genetic anatomy of a patented yellow bean.” Complete the following:

* 1. Look at the molecular technique(s) used to discriminate among different yellow bean strains and comment on the degree of “distinctiveness” that was detected.
  2. Discuss the appropriateness of ALFP and other alternative genomic systems for genetic fingerprinting that are used in patent infringement cases.
  3. Discuss what implications these findings could have on protection by patents vs. Plant Variety Protection and accusations of infringement.
  4. On the basis of the data in this article, would the cv. Enola be considered to be “essentially derivative” of any of the other yellow bean cultivars included in the analysis?

**Tentative answers** (can differ, based on context / assumptions made)