

## **MANAGING THE LEVEL OF OUT-CROSSING BETWEEN NEIGHBOURING MAIZE FIELDS IN THE PO VALLEY ENVIRONMENT**

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In terms of coexistence Italy's most relevant crop is maize.

The aim of this study was to validate, in the Po valley environment, the current knowledge about coexistence for maize, to acquire new data on gene flow and to verify the practical utility of several tools in reducing the out-crossing between neighbouring maize fields. In particular, the following were analyzed:

1. Gene flow in maize in the Po Valley environment;
2. The effectiveness of several tools in limiting gene flow, including physical separation between fields, use of buffer area to minimize pollen flow and the use of varieties with different flowering time.

Four different types of field were set up for a total area of 40 ha.

The results indicate that gene flow, under conditions that maximise out-crossing, falls below the threshold of 0.9% at 17.5 meters from the pollen source and below 0.5% at 30 meters. The threshold of 0.1% needs more than 120 meters. The effectiveness in reducing out-crossing of the agricultural practices tested, will be discussed.