



Poplar silvoarable systems: where to plant, planting material and tree density

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Poplar silvoarable systems, with poplar trees intercropped with herbaceous crops, have high ecological values for the mitigation of Climate Change and for the phytoremediation of agricultural soils. Rural Development Plan can finance this new innovative agroforestry system.

Poplar hybrids produce peeled timber for plywood, with a rotation of around 10 years, provided they are planted on fertile soils with optimal water supply: from rainfall, with at least 700 mm per year; from the water table, to an optimal depth of 100-150 cm; and from irrigation, to cover drought periods.

Drained alluvial plains, with drainage ditches at 35 m, are the best sites for the establishment of silvoarable poplar systems.

Tree planting on one side of ditch edge allows to use in a productive way the strip of land unless unproductive, without altering ditch stability and allowing free access to farm machineries for all cultural operations, both for the herbaceous component (soil tillage, fertilization, weeding, spaying for pests/diseases control, and crop harvesting) and for the trees (pruning) as well.

For poplar establishment, it is preferable to use 2 years old rods, adopting the new poplar clones with great environmental sustainability (MSA clones), requiring much less pesticide treatments than traditional clones. Poplar rods are planted 10 m away on the row. Thus, with a planting spacing of 10 x 35 m, in the first 5 years there are any negligible intercrops yield reduction due to tree shading. Over the next 5 years, on average, a shade loss to by 15-25% may occur, depending on crop type and tree row orientation. The north-south orientation of tree rows is preferable, to minimize the shading on intercrops.

References

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