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Hydromulches as a possible alternative to herbicides in organic woody crops.

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One of the main problems associated to woody crops is the weed control. This activity is mainly done by the application of herbicides and repetitive tillage, with the consequent environmental problems in the first case and the progressive soil erosion and fuel fossil consumption in the second one. Plastic mulches, mainly composed of polyethylene, are also used for this purpose, but they are mostly employed in vegetable crops. Additionally, weed control is especially complicated in young woody crops, which are very sensitive to phytotoxicities derived from herbicides and the use of machinery can damage the tree trunks, and also in established plantations, mainly in intensively managed orchards. Besides, all these problems are especially pronounced in organic farming, where the use of chemical herbicides are not allowed.

For this purpose, three mixtures based on by-products derived from the agricultural sector, mixed with a binder and recycled paper paste and applied in liquid form on the ground with subsequent solidification (hydromulch) were evaluated, focused on the effect on weed control in an intensive almond crop and in young olive trees grown in big containers. Controls included manual weeding and no-weeding treatments.

In summary, and as a basis for future tests, hydromulches exerted an acceptable weed control, although weeds can emerge through cracks in continuous formation, and especially when the material is softened by water. These preliminary results position hydromulches as an interesting alternative to herbicides and the conventional machinery and plastic mulches widely used.

Keywords: hydromulches, weed control, organic farming.

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