Field inoculation effectiveness of native and exotic arbuscular mycorrhizal fungi in a Mediterranean agricultural soil. [1]

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Abstract	In sustainable agriculture, arbuscular mycorrhizal (AM) fungal inoculation in agronomical management might be very important, especially when the efficiency of native inocula is poor. Here, we assessed the effect of native and exotic selected AM fungal inocula on plant growth and nutrient uptake in a low input Trifolium alexandrinumeZea mays crop rotation. We evaluated the effects of four exotic AM fungal isolates on T. alexandrinum physiological traits in greenhouse. Then, the field performances of T. alexandrinum inoculated with the exotic AMF, both single and mixed, were compared to those obtained with a native inoculum, using a multivariate analysis approach. Finally, we tested the residual effect of AM fungal field inoculation on maize as following crop. Multivariate analysis showed that the field AM fungal inoculation increased T. alexandrinum and Z. mays productivity and quality and that the native inoculum was as effective as, or more effective than, exotic AM fungal isolates. Moreover, the beneficial effects of AMF were persistent until the second year after inoculation. The use of native AMF, produced on farm with mycotrophic plants species, may represent a convenient alternative to commercial AM fungal inocula, and may offer economically and ecologically important advantages in sustainable or organic cropping systems.

Links
[1] http://geostat-course.org/content/field-inoculation-effectiveness-native-and-exotic-arbuscular-mycorrhizal-fungi-0
[2] http://geostat-course.org/biblio?f%5Bauthor%5D=493
[3] http://geostat-course.org/biblio?f%5Bauthor%5D=541
[4] http://geostat-course.org/biblio?f%5Bauthor%5D=542
[5] http://geostat-course.org/biblio?f%5Bauthor%5D=496
[6] http://geostat-course.org/biblio?f%5Bauthor%5D=543
[7] http://geostat-course.org/biblio?f%5Bkeyword%5D=143