**Versatile process for surface modification of plastic films. From plastic paper to mulching with release of micronutrients.**

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The simple and economical surface modification of plastic films is a need that must be satisfied in order to use them efficiently in different applications such as active packaging, graphic support, active mulching, etc. In this sense, a surface modification system for thermoplastic films with nano and microparticles has been developed and patented. The process does not use adhesives, can be tailor following the need and can applied during common plastic film manufacturing operations. This system allows a modification in a single step or in two steps depending on the final application. Several cases of real applications tested on a pilot scale are presented: Films for antifungal packaging of fresh cheese, repellent films for silos, plastic paper, mulching with micronutrients release (adaptable to each soil and each crop) between others. The results of the field application of each of these products are discussed, as well as the fundamentals of the manufacturing process in each case.