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Biorefining of Citrus Processing Waste (CPW Biorefinery)

Latin America is the biggest orange juice producer worldwide which results in significant amounts of Citrus Processing Waste (CPW). For many enterprises these waste products lead to significant disposal problems. On the other hand CPW can be the source of valuable products if converted in a biorefinery. The aim of this proposal is to develop a biorefinery concept for the CPW.

Currently CPW is often discarded and only in some cases it is processed to cattle feed however this requires drying which is energy consuming and often not economic. Another product from CPW is pectin for the food industry which is used as a gelling agent for jams or marmalades; however the pectin of the CPW is by far exceeding the marked for food pectin. Still another product that is isolated from the CPW is the sweet orange oil, which is mainly D-limonene.

In our proposed project we will develop new technologies for a better use of this raw material. These new technologies are related to extraction and bioconversion of high value compounds and to the fermentation of pectin rich biomass to fuels and chemicals using genetically engineered microorganisms.

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