

## **Agroclimatic Conditions, Chemical and Nutritional Characterization of Different Provenances of *Jatropha Curcas* L. from Mexico**

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### **Abstract**

In Mexico, *Jatropha curcas* is widely distributed. It is found in the wild in more than 15 states. To our knowledge it is the only country where toxic and non-toxic genotypes of *J. curcas* occur naturally. Guerrero, Michoacan and Chiapas states have over 90% of the toxic *J. curcas*, while edible (not toxic) provenances exist in northern Puebla and Veracruz (Totonacapan region). They grow in different growing conditions from 10 to 1430 msl, annual rainfall of 621 to 2500 mm, and in hot humid, sub-humid, and transitional climates. The kernel weight of seeds (as percent of seeds) from Chiapas was 74.4% and 73.7% from Suchiapa and Villaflores respectively, and it was 61 to 69.7% from the other regions. There was a large variation in the contents of crude protein (CP) in kernels (19-33%); Huitzilán had the smallest content of (18.8%) and Villaflores the highest (33.3%). The oil content in the kernel was from 46 to 64%, the lowest for Villaflores (45.9%) and highest for Huitzilán (64.5%). The protein digestibility of the kernel meal was from 73 to 80%. Trypsin inhibitor activity in the kernel meal ranged from 30-35 mg/g, phytic acid from 7.3 to 9.3%, saponins from 1.1 to 3.7%, and lectin activity from 1.56 to 12.5 mg/ml. The highest concentration of phorbol esters was in Chiapa de Corzo (4.05 mg/g). Seven samples from Veracruz, Puebla and Morelos were free of phorbol esters. *J. curcas* kernels