Comparison of Some Isoflavones from Korean Soybean by Horn and Standing Ultrasonic Waves

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Recently, other good effects of soybeans have been studied. They may contribute to many of the health benefits attributed to soybean foods. Typically, isoflavones have been extracted using aqueous methanol (MeOH), ethanol (EtOH), and acetonitrile (MeCN) solutions. Ultrasonics has been suggested to disrupt plant cell walls thereby facilitating the release of extractable compounds and enhances mass transport of the solvent from the continuous phase into plant cells. Modern methods used to release the bioactive constituents from herbs are ultrasonic enhanced solvent extraction. And mechanical effects of ultrasonic have been recognized and studied for many years. In this work, 5g samples of the powder from the Korean soybean containing the isoflavones were loaded in 100ml of an aqueous ethanol solution (40, 60%), pure water and ethanol 100ml.and then the isoflavones were extracted by assistance of ultrasonics. The soybeans tested were from Chungsun (Korea). The purpose of this work was to prove the usefulness of the ultrasonics by comparing the amounts of the extracted some isoflavones. The various experimental variables were the ultrasonic frequency 20, 40, 68, and, 110 KHz, intensity 100 W, at temperature 25 °C applied.