

Texture and chemical characteristics of soy protein meat analog extruded at high moisture

S. Lin;H. Huff;and F. Hsieh

Abstract

The relationships among extruder responses, texture, and protein solubility of soy protein meat analogs were studied. Soy protein isolate and wheat starch at 9:1 ratio were extruded at 60%, 65%, and 70% moisture contents and 137.8, 148.9, and 160 degrees C cooking temperatures. The results showed that moisture content was a more important factor on the overall product texture than cooking temperature. Lower moisture content resulted in higher die pressure, harder texture, and lower total protein solubility. At a fixed moisture content, a higher cooking temperature resulted in a softer and less chewy product but only slightly changed the protein solubility. According to partial least square regression, the data from Texture Profile Analysis, protein solubility, and extruder responses correlated well and could be used to predict each other. [References: 28]