Abstract

The effects of storage temperature and grain moisture content on thermal properties of protein fractions of a commercial corn hybrid were studied by differential scanning calorimetry. The results show that, at a storage temperature of 40 °C and moisture content ranging from 18 to 10%, corn protein fractions suffered significant changes in a short period of time. When the grain was stored for 30 days at 40 °C and 18% moisture content, enthalpy of protein denaturation decreased by about 80%, for proteins with polar predominance (albumin and globulin), and within 50 days for those of hydrophobic predominance (prolamin and glutelin). Along with the observed enthalpy decrease, the denaturation temperature increased by 32% for predominantly hydrophobic proteins and 15% for the polar ones.