

Abstract Submitted
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Blends of cysteine-containing proteins JUSTIN BARONE, WALTER SCHMIDT, USDA/ARS/ANRI/EQL — Many agricultural wastes are made of proteins such as keratin, lactalbumin, gluten, and albumin. These proteins contain the amino acid cysteine. Cysteine allows for the formation of inter-and intra-molecular sulfur-sulfur bonds. Correlations are made between the properties of films made from the proteins and the amino acid sequence. Blends of cysteine-containing proteins show possible synergies in physical properties at intermediate concentrations. FT-IR spectroscopy shows increased hydrogen bonding at intermediate concentrations suggesting that this contributes to increased physical properties. DSC shows limited miscibility and the formation of new crystalline phases in the blends suggesting that this too contributes.

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