

Stability studies of some food emulsions

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Abstract Emulsions, thermodynamically unstable mixtures, are dispersed systems in which one liquid is dispersed as droplets in a second immiscible phase. In most natural and processed foods, the immiscibility of water with lipids is overcome by dispersing one phase as droplets into the other phase. The oil-in-water emulsions are highly stable. This is because some water-soluble surface-active agents and fine solid mineral particles are often adsorbed onto the oil droplets so that the emulsions are difficult to demulsify. In the present study we have determined some characteristics of oil-in-water emulsions obtained by three different types of oils: sun flower oil, olive oil and corn oil, and we have investigated the stabilization of these emulsions fortified with iron in the presence or in the absence of casein. The solubility, pH values, water and volatile content, free acidity, total fatty matter, iron content and redox potential were measured. It was observed that the increase of emulsions Fe(II) content was associated to the diminution of the system's redox potential.

Keywords: oil-in-water emulsions, iron, casein, stability
