



# Agricultural Journals

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# **Czech J. Food Sci.**

**Dang Y.-Y., Zhang H.,  
Xiu Z.-L.:**

# Three-liquid-phase extraction and separation of capsanthin and capsaicin from *Capsicum annum* L.

Czech J. Food Sci., 32 (2014): 109-114

The extraction of capsanthin and capsaicin from red pepper (*Capsicum annum* L.) was studied using a three-liquid-phase system (TLPS) of acetone/ $K_2HPO_4$ /*n*-hexane. When the system consisted of 22% (w/w) acetone/20% (w/w)  $K_2HPO_4$ /10% (w/w) *n*-hexane, capsanthin was extracted into the top *n*-hexane-rich phase, yielding a recovery of 98.15% at a temperature of 25° C. Meanwhile, capsaicin was mainly distributed in the middle acetone-rich phase, less than 0.01% in the top phase, and undetectable in the bottom salt-rich phase. The yields of capsanthin and capsaicin were 105 and 88% of those of the conventional solvent extraction,

respectively. Thus, capsanthin and