

PIENG UDOMKIATTIKUL : POWDERED NATURAL FOOD COLORS BY SPRAY DRYING  
TECHNIQUE. THESIS ADVISOR : ASSO. PROF. ORANONG KANGSADALAMPAI,  
Ph.D. AND ASSO. PROF. WINNA REANSUWAN M.Sc. (FOOD CHEM.) 97 pp.

Attempts to prepare natural food colors by spray drying technique  
and study the properties, stability, consumer's acceptability to the colors  
and also to find out the proper packaging of food colors was studied

It was found that 3% KOH in 50% ethanol, 50% ethanol and water was  
the proper solvent mixture of Anatto (Komsad in Thai), Gardenia (Lupud in  
Thai), Lac (Krang in Thai), by using 5 grams of Komsad, 30 grams of Lupud  
and 20 grams for Krang which would make the most effective extraction.

Using a spray dry, we use 10% gelatin for Komsad, 5% gelatin for  
Lupud and 15% maltodextrin with 5% soluble starch for Krang (inlet temperature  
160-170 C, Aspirator 20, Pump 3 and Flow control 600)

It was suggested that the properties and stability of the food colors  
of Komsad and Lupud were pH independent, in contrast to that of Krang which  
was pH dependent. The concentrations of Lead and Arsenic in the color was  
not beyond the standard limitation of food colors regulated by Thai Food  
and Drug Administration. The best packaging for the prepared colors was  
Aluminium foil.

Using the colors in dessert, Kanom Luchup, it was found that the  
acceptability to these 3 natural colors according to color, flavor, odour,  
texture was as good as that of artificial ones. However, the application of  
color of Krang on Kanom Puphai was not as good as tartarazine (an artificial  
color) and Komsad.