



Plum Good News

California Dried Plum Ingredients

Research • Applications • Information

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Arkansas Phosphate Replacement Research Poster To Be Presented At IFT Annual Meeting June 11-12

Research sponsored by the California Dried Plum Board at the University of Arkansas' Department of Food Science is scheduled for presentation in two poster sessions at the upcoming IFT annual meeting in New Orleans.

Researcher Ashley Clements will present in the student competition on **June 11 from 1:00 to 2:45**. Her poster number is COMP12-04. **Following on June 12 she will also present during the regular poster presentation from 12:00-2:00PM**. The poster number is 053-07.

The research study titled *Dried Plum Products as a Substitute for Phosphate in Chicken Marinade* concluded that dried plum ingredients can potentially be used as a substitute for alkaline phosphates in standard chicken breast marinades.

All plum products (**dried plum fiber, dried prune powder, plum juice concentrate, or a 1:1 mix plum fiber and prune powder**) produced a more tender chicken breast fillet than did the traditional phosphate mixture. Consumers found no difference in the treatments when compared to the phosphate control. While the consumers found the juiciness attribute less favorable for plum fiber or dried plum powder on the likeness scale (like extremely to dislike extremely), the plum fiber and dried plum powder "just about right" values were closer to 2 (just about right).

Water holding capacity analysis showed that plum fiber marinade retained moisture as well as the phosphate control and had a lower amount of thaw loss but a slightly higher amount of cook loss. Color was comparable to the phosphate control. Dried plum powder had slightly lower marinade retention and thaw loss and slightly more cook loss compared to the phosphate control.

The results of this study continue to underscore results from prior university research on the efficacy of dried plums to naturally bind moisture in animal proteins. The ability of dried plums to function in this manner can be attributed to the high levels of fiber and sorbitol that naturally occur in the fruit. When these moisture-binding characteristics are considered along with dried plums' naturally occurring malic acid and high antioxidant capacity the benefits of incorporating dried plum ingredients into animal proteins become apparent. A manuscript summarizing the study



has been submitted to the *Journal of Food Science* for peer review.

Dried Plums: The Sensational Superfruit

Many fruits labeled Superfruits owe their reputation to their antioxidant content and composition. Dried Plums are no exception posting an ORAC value of 8557 per 100 grams. Fresh plum juice concentrate is even higher at 13050. Dried Plums' antioxidants are mostly chlorogenic and neochlorogenic acids. Dried Plums also contain naturally occurring sorbitol (15%, 25% in Dried Plum powder) that serves as an effective humectant to bind and hold moisture. There is also 7.5% fiber that contributes to moisture binding and holding. And, there is 1.5-2.0% malic acid, a natural flavor potentiator that rounds out flavors making them even more savory and appealing.

These dried plum nutritional components are possible due to the uniqueness of the d'Agen plum variety that is one of only a few plums that are allowed to naturally ripen on the tree without fermenting.

A Dried And Fresh Plum Ingredient For Every Meat Application

California dried plums are available for virtually every meat application. Dried plum powders, fiber, purees, juice concentrates and diced can be incorporated into most meat products. Fresh plum juice concentrate and prune fiber powder are two recent additions to the library of ingredients for meat use.