

# CALIFORNIA DRIED PLUM BOARD

## *Technical Bulletin*

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### **Dried Plum Rubs, Marinades And Sauces Achieve Deeper Flavor, Added Moisture, Extended Shelf Life...Naturally**

#### **Background**

Consumer demand for more, bigger and bolder flavors has influenced chefs and food processors, particularly meat purveyors, to seek out ingredient and technology solutions. Emphasis on spices and herbs in the form of sauces, marinades, glazes and rubs have been the traditional method of flavor achievement. Cooking methods including slow roasting, smoking, grilling, combination oven-steamers and other alternatives have also made more recent and significant flavor contributions.

Marinades, sauces, glazes and rubs principally influence the flavor of the meat's outer surface. Overnight marinating, including marinating in vacuum packaging improves the marinating process but can be time consuming, often requires an acid source to soften meat tissues to absorb the marinade and may yield inconsistent flavor absorption called hot spots or dead zones.

A marinade's primary function is imparting flavor and modifying texture through moisture absorption. This hydration allows for a higher yield of marinated meat as well as reduced purge in storage. Moisture loss is reduced during cooking resulting in juicier and more flavorful meats.

Marinades may include some particulates that end up similar to a "rub" on the meat's surface. Maximizing the solubility of flavoring solutions is important in vacuum tumbled meats. Usually, a combination of coarsely and finely ground spices is blended for external appearance and internal flavor enhancement.

Where ingredient and technology flavor solutions collaborate for deep flavor infusion is the vacuum tumbler. The result of vacuum tumbling is a juicier product with a deeper flavor achieved throughout the food because all of the marinade is absorbed in the process. Final weight yield can be improved by as much as 8-10% while shrink is reduced. Shelf life is also extended.

Vacuum tumbling really stands out when the technology is used with lesser value, tough proteins such as bottom rounds, skirt steaks, turkey thighs and with extra lean whole muscle cuts. As much as 50% of broiler chicken meat will be marinated in some form prior to consumption.

These proteins become moist, flavorful and tender after only a few minutes in a vacuum tumbler with added consumer value and improved palatability. The less expensive proteins also present chefs and food processors with incremental profit opportunities due to the added value achieved in deeper flavor and tenderness through vacuum tumbling.

### **Dried Plums Make A Natural Flavor Difference**

Dried plum purees, juice concentrates and particularly powders are an effective addition to scratch-made marinades, rubs and sauces or can be added to processed versions for a noticeable improvement in flavor, moisture and shelf life. Dried plums are naturally rich in fiber and high in sorbitol (dried plum powder has as much as 25% sorbitol) to bind and maintain moisture in red meat and poultry products (the addition of as little as 3% dried plums to the raw meat block can help to retain moisture). Dried plums' acidic profile, particularly malic acid, along with a high antioxidant content fend off the corrupting effects of bacteria and oxygen.

The flavor of dried plums can be described as non-characterizing. That is, dried plums do not impart a flavor but rather, enhance and round out other food flavors in a recipe or formulation. This makes dried plums the perfect ingredient for complete flavor systems whether sweet or savory, sauces, marinades, or rubs. This is particularly important when developing ethnic flavor systems with complex formulas and ingredients.

Some 71% of respondents in the 2007 Prepared Foods Magazine trends survey on new flavoring systems indicated a greater emphasis on natural flavors by food processors. However, concerns over natural flavor's stability throughout a finished product's shelf life remain. Not only are dried plums a natural ingredient, the addition of dried plums to marinade, rub and sauce formulas potentiates and rounds-out the natural flavors of herbs and spices while improving the shelf life of proteins.

Flavor improvement and stability, however, are not the only benefits food designers can achieve when using dried plums. The natural ability of dried plums to bind and retain moisture in proteins is impressive. This is true whether dried plums are added as part of a marinade formula, or rub or sauce. Related to moisture retention is the antioxidant capacity of dried plums to assist in suppressing the growth of both normal flora and various meat pathogens. All of these dried plum natural components contribute to extending the shelf life of beef, pork, poultry, lamb and many other animal proteins.

With more sandwich proteins and prepared meals entering the retail and foodservice markets pre-cooked and seasoned, the need for deeper flavors to both differentiate proteins and increase demand has never been greater. Retaining these flavors and moisture, particularly if the proteins are re-heated or held under heat, make the addition of dried plums all that more important.

## DRIED PLUM RUB & MARINADE RECIPES AND FORMULAS

### Asian Plum Rub

Dried Plum Powder	2 oz
Star Anise	1/2 oz
Szechwan Peppercorn	1/2 oz
Cloves	1/4 oz
Kosher Salt	1 oz
Orange Zest	1/4 oz
Cinnamon	1/4 oz
Fennel Seeds	1/4 oz

#### Directions:

1. Place spices in a spice grinder or food processor and process until a fine powder is achieved.
2. Coat meat liberally with spice and keep under refrigeration for at least two hours.
3. Cook as desired.

### BBQ Plum Rub

Dried Plum Powder	2 oz
Mesquite Seasoning (RL Schreiber)	9 oz
Seasoned Salt (RL Schreiber, Great Shake)	2 oz
Paprika, Sweet Smoked	1 oz
Pepper Seasoning (RL Schreiber)	4.5 oz

#### Directions:

1. Place spices in a food processor and process until well combined
2. Coat meat liberally with spice and allow to sit under refrigeration for at least two hours.
3. Cook as desired.

## Plum Mesquite Marinade For Vacuum Tumbling

### Ingredients

- Use approximately 1 ounce of marinade per 1 pound of meat.

KC Masterpiece Mesquite Marinade	75%
Water	21%
Dried Plum Powder	4%

### Procedures

1. Place dried plum powder and water in a mixing bowl and whisk well to combine.  
Let rest for 5 minutes for plum powder to bloom and whisk again.
2. Add marinade to plum mixture and whisk to combine.
3. Place marinated and pork loin in tumbler.
4. Pull a 20 pound vacuum and tumble for 20 minutes.
5. Remove pork loins from tumbler and marinade, vacuum package or reserve for roasting.

## Asian Plum Marinade For Vacuum Tumbling

### Ingredients

- Use approximately 1 ounce of marinade per 1 pound of meat.

KC Masterpiece Honey Teriyaki Marinade	75%
Water	21%
Dried Plum Powder	4%

### Procedures

1. Place dried plum powder and water in a mixing bowl and whisk well to combine.  
Let rest for 5 minutes for plum powder to bloom and whisk again.
2. Add marinade to plum mixture and whisk to combine.
3. Place marinate and pork loin in tumbler.
4. Pull a 20 pound vacuum and tumble for 20 minutes.
5. Remove pork loins from tumbler and marinade, vacuum package or reserve for roasting.

### Roasting Procedures

1. Remove excess marinade from pork loin.
2. Rub liberally with Asian Plum Rub.
3. Place pork loin on a rack set above a sheet tray and roast in a preheated 275°F conventional oven until the internal temperature reaches 150 °F.  
Let rest for 15 minutes before service.

## DRIED PLUM SAUCE RECIPES AND FORMULAS

### Plum Barbecue Sauce For Beef

<b>Ingredients</b>	<b>% by Weight</b>
Dried Plum Puree	25.93
Brown Sugar Packed	16.53
Onions, Finely Minced (Half As Much Dehydrated Onion May Be Substituted)	12.97
Apple Juice	12.97
Tomato Paste	12.97
Worcestershire Sauce	6.48
White Vinegar	6.48
Garlic, Finely Chopped (Half as much Dehydrated Garlic May Be Substituted)	1.62
Chili Powder	1.62
Mustard Powder	1.62
Liquid Smoke Flavor (Optional)	0.81
<b>Total</b>	<b>100.00</b>

#### **Procedure**

1. In a steam jacket kettle or sauce pot add 1/2 of the apple juice, onions and garlic, sweat until tender.
2. Add the remaining ingredients and mix well, continue cooking until it reaches a boil.
3. Remove and cool.

### Plum Barbecue Sauce For Poultry

<b>Ingredients</b>	<b>Volume</b>
Fresh Plum Juice Concentrate	12 oz.
Tomato Ketchup	12 oz.
Orange Juice Concentrate	4 oz.
Worcestershire Sauce	4 oz.
White Wine Vinegar	4 oz.
Tamarind Paste	1 oz.
Garlic Powder	1/2 T
Onion Powder	1/2 T
Anchovy Paste	1/2 T
Cinnamon	1/4 t
<b>Yield: One quart</b>	

#### **Procedure:**

Combine all ingredients in a sauce pot, bring to a boil. Remove from heat. Refrigerate and serve

## Plum Steak Sauce

<b>Ingredients</b>	<b>Volume</b>
Dried Plum (prune) Juice Concentrate	12 oz.
Tomato Ketchup	12 oz.
Orange Juice Concentrate	4 oz.
Worcestershire Sauce	4 oz.
White Wine Vinegar	4 oz.
Tamarind Paste	1 oz.
Garlic Powder	1/2 T
Onion Powder	1/2 T
Anchovy Paste	1/2 T
Cinnamon	1/4 t
<b>Yield: One quart</b>	

### **Procedure:**

Combine all ingredients in a sauce pot, bring to a boil. Remove from heat. Refrigerate and serve.

## Asian Plum Dipping Sauce

<b>Ingredients</b>	<b>Volume</b>
Fresh plum juice concentrate	12 oz.
Water	12 oz.
Sugar	3 oz.
Ketchup	3 oz.
Rice Vinegar	1 1/2 oz
Chili Paste	To taste
<b>Yield: One quart</b>	

### **Procedure**

Mix all ingredients and simmer for about 8 minutes

*If desired, add chopped peanuts*

**For further information contact:**

**California Dried Plum Board**  
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