

Baking with Soy Recipes
Recipes Produced by Dr. Sergio Serna
During Technical Assistance Visits with ASA/WISHH

Production of Soft Crusted Salvadoran French bread

Table 1 depicts the formulations tested for the production of soybean enriched French breads.

Table 1. Formulations used for production of standard and soybean-fortified Salvadoran French breads.

Ingredient	Standard (%)	Enriched with Defatted Soybean Flour (%)
Hard refined flour	100.0	94.0
Defatted Soybean Flour	---	6.0
Water	58.0	63.0
Dry yeast	1.5	1.5
Salt	1.5	1.5
Shortening	2.0	2.0
Sugar	1.5	1.5
Total Dough Yield	164.5	169.5

Baking Procedure

- 1.- Weigh 5 lb of the hard flour and defatted soybean flours according to the formulation depicted in Table 1.
- 2.- Place the flour and ingredients in the dough mixer. Mix dry ingredients and shortening for 1 min. Then, add the predetermined amount of water and start the mixer until the dough absorbs the water. After 8 minutes of dough mixing remove the dough from the mixer and laminate it until attaining a properly developed dough (around 25 passes through the mechanical sheeter). The resulting dough should be cohesive, smooth, and form a thin layer when stretched by hand.

- 3.- After mixing, register the dough consistency and then divide and portion the dough into two ounce pieces. Round the dough pieces by hand and place them in a tray. Allow dough balls to ferment for at least 30 min.
- 4.- After 30 minutes proofing, manually punch the dough pieces and round them again.
- 5.- Place the round dough pieces on baking sheets for 90 min proofing in a fermentation cabinet set at 35°C.
- 6.- Place the baking sheets with the fermented dough pieces in an oven set at 200°C for 20 min baking (Fig 1).
- 7.- After baking, allow the pieces of bread to cool down at ambient temperature.
- 8.- Upon cooling, weight the resulting breads and evaluate the properties of resulting breads in terms of volume, crust color, crumb texture, and organoleptic properties. Calculate the bread yield based on the original formulation.

Production of Sweet Breads Menudo

Table 2 depicts the recipes followed to produce the regular and soybean-fortified Menudo bread.

Table 2. Formulations used for production of standard and soybean-fortified Menudo sweet bread.

Ingredient	Standard Menudo (%)	Soybean Fortified Menudo (%)
All-purpose flour	100	94
Defatted Soybean Flour	---	6
Water	25.0	30.0
Shortening	40.0	40.0
Sugar	20.0	20.0
Dry yeast	1.00	1.00
Double Acting Baking Powder	1.25	1.25
Salt	1.25	1.25
Vanilla (liquid)	0.10	0.10
Total Dough Yield	188.60	193.60

Baking Procedure

- 1.- Weigh 5 lb g of the all-purpose wheat flour and defatted soybean flours according to the ingredients listed in Table 2.
- 2.-First blend dry ingredients including shortening for about 1 min at low speed in the blender. Then add the predetermined amount of water and liquid vanilla and keep blending at low speed for 1 more minute, Then switch the speed to medium and allow dough to blend for 6 additional minutes.
- 3.- Cut the resulting dough into 2 ounces pieces, round them by hand and allow pieces to ferment in a fermentation cabinet for 45 minutes.
- 4.- After fermentation, first degass the dough pieces and form it into different configurations (discs, croissants, empanada form etc). Alternatively, the configurations can be filled with a fruit jam (Fig. 2).
- 5.- Place formed configurations on sugar and then place them in a greased pan for final proofing.
- 6.- Allow pieces to ferment for at least 45 minutes in a fermentation cabinet set at 32°C.
- 7.- Preheat oven to 180°C and bake the sweet bread configurations (Fig. 2) for 20 minutes at 190°C or 375°F.
- 8.- Remove pan from the oven and allow menudo pieces to cool down for at least 30 minutes before depanning. Weight the configurations and calculate the weight loss incurred during baking and cooling.
- 9.- Evaluate texture, color and organoleptic properties of the two types of menudo sweet breads (with and without soybean protein).

Production of Pan Bread

Table 3. Formulations used for production of standard and soybean-fortified pan breads.

Ingredient	Standard (%)	Enriched with Defatted Soybean Flour
Hard refined flour	100.0	94.0
Defatted Soybean Flour	---	6.0
Water	62.0	68.0
Sugar	6.0	6.0
Fresh Compressed yeast	5.0	5.0
Shortening	3.5	3.5

Salt	1.5	1.5
Total Dough Yield	178	184

Straight Dough Baking Procedure

- 1.- Weigh 1000 g of the hard flour and defatted soybean flours according to the ingredients listed in Table 3.
- 2.- Place the flour and ingredients in the dough mixer. Mix dry ingredients and shortening for 1 min. Then, add the predetermined amount of water and start the mixer at low speed until the dough absorbs the water (1 min). Then, switch the speed to medium and allow dough to properly develop. The properly developed dough should be cohesive, smooth, and form a thin film when stretched by hand.
- 3.- After mixing, register the dough consistency. Then, divide and portion the dough into three 440 g pieces and two 220. Round the dough pieces by hand and place them in a tray. Allow dough balls to ferment for at least 30 min in a fermentation cabinet set at 32°C.
- 4.- After 30 minutes proofing, manually punch the dough pieces and with a rolling pin sheet the dough into a rectangular configuration
- 5.- Roll all pieces of doughs into cylinders. The large pieces are for production of conventionally formed pan bread whereas the two smaller pieces for twisted bread.
- 6.- Allow dough pieces in the baking pan to ferment for 70 min proofing in a fermentation cabinet.
- 7.- After fermentation measure the height of the dough and place the baking pans with the fermented dough pieces in an oven set to 200°C for 25 min baking (Fig. 5A).
- 8.- After baking, allow the pan breads to cool down at ambient temperature.
- 9.- Upon cooling, measure the height and weight of resulting breads and evaluate the properties in terms of volume, crust color, crumb texture, and organoleptic properties. Calculate the bread yield based on the original formulation.