



DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

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FISH AND WILDLIFE SERVICE

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PROTEAN SARDINES PROVIDE PROTEINS

In any sea census, the sardines would be Smiths: no other fish species comes near it in numbers.

First canned commercially in Maine in 1875, and in California in 1896 --and still canned only in these two states--our present-day sardine canning industry, ranks among the most important commercial fisheries in the United States, according to the Fish and Wildlife Service, United States Department of the Interior. In 1940, for example, 1,117,748 standard 25-pound cases of sardines, valued at \$3,736,394, were canned at 27 plants in Maine; while 2,945,882 standard 48-pound cases, worth \$8,975,257, were packed at 32 plants in California.

Although both are members of the herring family, the sardines packed in Maine are a distinctly different species from those canned in California. In Maine, the raw material used is the "sea herring;" in California the pilchard is packed as the sardine.

Norwegian research indicates that herring "sardines" are good sources of vitamins A and D and that the iodine content is high, so that they may

well be included in a diet for the prevention of goiter. Milk is advocated for use in children's diet partly because of its lime content which aids in building up bones and teeth. But the lime content of sardines is more than twice that of milk.

The California pilchard fishery has shown its phenomenal growth largely because of stimulated demand for an inexpensive protein food during the World War. Because of the predominance of large fish in the catch, the California pack consists mainly of fish canned in tomato sauce in one-pound oval cans, which usually contain four to 10 large pilchards.

In Maine, high quality cottonseed oil is used most widely for oil pack sardines. Some packs are put up in imported olive oil. Mustard sauce is sometimes used instead of oil, usually with fish of the larger sizes running four or five to the "quarter oil" size can, or those which may show roughness in handling. Tomato sauce is used in packing a few thousand cases of Maine sardines. Some sardines are packed in a spiced cottonseed oil, made by adding oil of cloves or other essential oils of spices to cottonseed oil. A delicate spicy flavor is secured in the product which is relished by certain markets.

Despite the fact that most people serve sardines "au natural," i.e., straight from the can, these tiny fishes lend themselves to various methods of preparation, to wit:

Sardine Pilaf

1 $3\frac{3}{4}$ -oz. can sardines packed in cottonseed oil	1/2 tsp. salt
1-1/3 cups cooked rice	1/16 tsp. pepper
1 cup canned tomatoes	1 $\frac{1}{2}$ tps. minced onion

Drain oil from sardines. Mix together remaining ingredients; pour half into casserole; cover with sardines; then add remaining rice mixture. Bake in a moderate oven at 375 degrees F. for 30 minutes. Serves 3.

(State of Maine Canned Foods 121 Tested Recipes)

Sardines with Noodles Polonaise

1 9-oz. can sardines in 1½-2 cups uncooked noodles
tomato sauce 2 tbsps. butter
1 cup fresh bread crumbs

Empty sardines and sauce into saucepan; heat for about 10 minutes until thoroughly hot. Cook noodles in boiling salted water, according to directions on the package. Melt butter in saucepan; add bread crumbs and saute until brown; add to drained noodles and toss together. Spread noodles on a warmed serving platter and arrange sardines on top. Serve with additional tomato sauce or chili sauce if desired. Serves 4.

(State of Maine Canned Foods 121 Tested Recipes)

Sardine Casseroles

Cook 4 ounces of spaghetti in a generous quart of boiling salted water for about 20 minutes. Drain. In the top of a double boiler, over direct heat, melt 1 tbsp. of butter and add 1/2 tbsps. of finely chopped onion. Cook for 5 minutes, stirring constantly, and then add 1 tbsp. of flour and 1/4 tsp. of salt and blend until smooth. Gradually add 1 cup of flour and 1/4 tsp. of salt and blend until smooth. Gradually add 1 cup of milk and stir until thick. From a 3-3/4-oz. can of sardines take as many sardines as individual casseroles. Drain off the oil and mash the remaining sardines. Add these to the sauce, with a little lemon juice and a dash of the new liquid garlic (no odor but flavor). Heat thoroughly then pour over the spaghetti, which has been kept hot. Fill individual casseroles with this mixture and heat in oven at 400 degrees F. for about 10 minutes. When ready to serve, garnish with a ring of lemon rind filled with grated cheese and place a sardine on top. Add a tiny sprig of parsley each side of the sardine for additional color.

(American Cookery Magazine)

For simple snacks to serve with beer or coffee after an evening of bridge, try these "quickies":

Sardines on Toast

Open a can of Norwegian smoked sardines and put in a small frying pan together with the sardine oil. Add juice one-half lemon. Heat and serve neatly arranged on buttered toast. Garnish with sliced lemon and parsley, dill, or cress.

(Ida Bailey Allen's Time-Saving Cook Book)

Sardine and Tomato Toasts

Mince sardines in tomato sauce. Add a little pickle relish and cream cheese if desired, and spread on buttered toast.

(Ida Bailey Allen's Money-Saving Cook Book)

Sardine and Beet Canapes

Mash Norwegian smoked sardines and combine with a little lemon juice and mayonnaise to season. Spread to the edge on buttered bread, toast or crackers and garnish with drained pickled beets and capers or pickled nasturtium seeds.
(Ida Bailey Allen's Money-Saving Cook Book)

Stuffed Sardines

1 can boneless sardines Parmesan Cheese
 Sliced lemon

Remove sardines from can. Open each sardine and fill with the Parmesan cheese, press together and serve with sliced lemon.
(Old Gloucester Sea Food Recipes)

Sardine Sandwich Spread

1 can sardines
1/2 cup thick salad dressing or mayonnaise
4 tbsps. chopped stuffed olives
2 capers and a dash of cayenne pepper

Mix the sardines and dressing together as a paste and add the chopped olives and capers.
(100 Tempting Fish Recipes)

Sardine Fingers

Cut thinly sliced bread into long narrow strips, and brown on one side in butter. Roll whole sardines in grated Parmesan cheese and place one on untoasted side of each piece of bread. Sprinkle with salt and brown quickly under broiler. Garnish with tiny sprigs of parsley and serve at once.
(500 Tasty Sandwiches--Culinary Arts Institute)

For more substantial luncheon or dinner dishes, the following recipes are offered:

Sardine Outlets

1 9-oz. can sardines packed Bread crumbs
 in mustard sauce 1 egg
 2 tbsps. water

Drain excess sauce from sardines. Mix together egg and water. Dip sardines in bread crumbs, then in egg mixture and then again in bread crumbs. Fry in hot fat at 375 degrees F. until golden brown. Serve with chili sauce. Serves 3.
(State of Maine Canned Foods Recipes)

Sardine and Shrimp Salad

1 can shrimps	Tarragon Vinegar
1 can sardines	French dressing
Asparagus tips	Cucumber
Lettuce	Tomatoes

Take equal parts of shrimps and sardines, marinate separately in a little Tarragon vinegar. Line salad bowl with lettuce and fill with alternating layers of cold asparagus tips, sardines cut in dice, the thinly sliced cucumber and tomatoes, then one layer of shrimp, divided in sections if desired. Serve with the French Dressing. (Old Gloucester Sea Food Recipes)

Sardines with Cheese on Toast

1 can sardines	4 tbsps. orange juice
1/2 pimento, minced	1 small onion, minced
1/2 cup grated cheese	Crackers or toast

Place sardines on toast or crackers in serving dish. Mix onion and pimento together and sprinkle over fish. Top this with orange juice and finally the cheese. Heat thoroughly in oven. Serve hot. Serves 4.

(U.S. Fisheries Assn. Recipes for Fish and Seafood)

Creamed Sardines

1 can sardines	1 tsp. minced parsley
4 tbsps. butter	2 hard cooked eggs,
1-1/2 cups milk	chopped fine
6 stuffed olives	3/4 cup bread crumbs
Salt and cayenne	

Bring to boiling point butter, milk, sardines, cayenne, salt, parsley, crumbs, and eggs. Serve very hot. Garnish with parsley and olives. Serves 4.

(U.S. Fisheries Assn. Recipes for Fish and Seafood)