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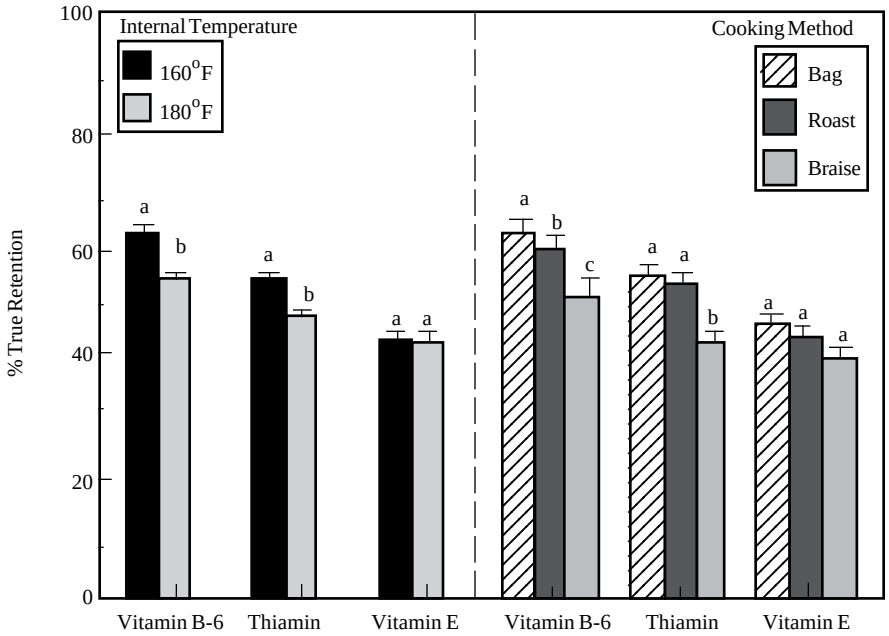
The nutritive qualities of boneless Chef's Prime™ pork loin roasts cooked by three household cooking methods to two internal temperatures were evaluated. Fresh pork loins were obtained from a vendor and prepared by UNL's Meat Laboratory according to National Pork Producers Council's specifications for the Chef's Prime™ trademarked cut with 1/8-inch fat trim. The roasts were frozen for less than two months before defrosting in the refrigerator and cooking.

The National Pork Producers Council now recommends that pork be cooked to an endpoint internal temperature of 160° F rather than the previously recommended temperature of 180° F. This is because new swine production practices have reduced concerns about trichinosis. Roasts were cooked in a household oven at 325° F to internal temperatures of 160° F (the new recommendation) and 180° F (the former recommendation). The loins were cooked by roasting, braising, and cooking in a large (Reynolds) oven bag. The loin roasts were between 2.4 and 4 pounds. The average cooking times for the roasts are given in Table 1. Pork that was braised or cooked in a bag reached 160° F or 180° F internal temperature much more quickly than pork that was roasted. The cooked pork contained a mean of 68% moisture and 8% crude fat.

Table 1. Average Cooking Time

	Internal temperature	
Cooking method	160°F	180°F
	(minutes)	
Roast	131	164
Braise	107	121
Bag	109	122

Pork cuts are "good" to "major" sources of many nutrients that Americans frequently consume in less than adequate quantities. These include



Values represent least squares means and standard errors.
Values for each nutrient not sharing a common superscript are significantly different at P < .01.

Figure 1. True Retention Values for Three Vitamins in Pork Roasts Prepared by Three Cooking Methods to Two Internal Temperatures

vitamin B-6, vitamin E, iron, magnesium, zinc, and selenium. The amounts of these nutrients in the cooked pork roasts and their retention values were determined. Thiamin was used as the index nutrient. Cooked pork roasts (3.5 ounces) were found to contain approximately 20% of the vitamin B-6, 49% of the thiamin, 2% of the vitamin E, 10% of the iron, 6% of the magnesium, 20% of the zinc, and 89% of the selenium needed to meet the Recommended Dietary Allowances of adults for a day.

True retention is a term that relates the percentage of nutrient content of the food as cooked to the content before cooking. The true retention of the vitamins in the pork roasts prepared by the three cooking methods to the two internal temperatures are given in Figure 1. Retention values for vitamin B-6 and thiamin were significantly higher ($P < .01$) in pork cooked to 160° F than to 180° F. Vitamin B-6 retention values for pork cooked in a bag were significantly higher ($P < .01$) than for pork that was roasted, whereas pork that was roasted had significantly higher ($P < .01$) values than pork that was braised. Thiamin retention values were significantly higher ($P < .01$) in pork that was cooked in a bag or roasted than in pork that was braised. Mean true retention values were 58% for vitamin B-6 and 51% for thiamin. Hence, almost half of the vitamin B-6 and thiamin were destroyed during cooking. The highest true retention values for these two vitamins were for pork cooked in a bag.

The vitamin E retention in pork prepared by the different cooking: temperature methods was similar. The pork roasts contained a small amount of vitamin E, only enough to meet about 2% of recommended intakes per serving. However, the mean true retention value for vitamin E was only 44%, indicating that over half of the vitamin E was destroyed during cooking. This was independent of the cooking: temperature method used. The lower fat trim of today's pork cuts may result in the lower vitamin E content.

True retention values for iron, magnesium, zinc, and selenium were similar for the different cooking: temperature methods and were close to 100%. Hence, no loss of minerals occurred while the pork was being cooked.

True retention values for vitamin B-6, thiamin, and vitamin E were highest for pork roasts cooked in the bag to an internal temperature of 160° F. However, true retention values for iron, magnesium, zinc, and selenium were similar in pork cooked in the bag, braised, or roasted to either 160° or 180° F internal temperature. Chef's Prime™ loin roasts were found to be "major" sources of vitamin B-6, thiamin, zinc, and selenium and a "good" source of iron.

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