EFFECT OF COOKING METHOD ON THE FAT CONTENT OF HAMBURGER PATTIES

R.L.Henrickson[1] and B.R.Rao[2]

Story in Brief

Hamburger patties prepared using an Instant Burger Cooker had 4.5 % less fat than those cooked on a griddle. The data suggested that the Instant Burger method would provide a lower calorie content per cooked patty.

(Key words: Cook method, fat content, hamburger.)

Introduction

Consumers presently are very conscious of the nutritive content of foods as this is related to their health. The segment of the population which is at risk to coronary heart disease are advised to be cognizant of their dietary intake of cholesterol (Reiser, 1978). Some epidemiological studies have demonstrated positive correlations between high fat consumption and colon cancer (Reddy, 1981) and pancreatic cancer (Wyndler, 1975). Janciki and Appledorf (1974) recommended microwave cooking of ground beef patties for persons on low fat diets as this method provided less crude fat than broiling or grill frying.

This investigation was undertaken to determine whether a new type cooker(Instant Burger) affected the total fat content of cooked burgers compared to the griddle method.

Materials and Methods

Hamburger patties each weighing approximately 4 oz (raw) were obtained from two local fast food outlets and from OSU food service center (Brand A). All the patties after wrapping in wax coated paper were packaged in freezer paper and stored at -10 C.

The fast food outlets also provided both raw and cooked patties, Brand B and Brand C. The raw Brand A patties were cooked on an electrical griddle preheated to 350 F, to a medium well degree of doneness. This constituted the conventional cooking method. The cooked patties were wrapped in freezer paper and stored at -10 C.

Cooking the patties using the Instant Burger (Smokaroma Inc. Boley O.K. 74829) was the other method of cooking. Two patties were cooked at a time to medium well done. The cooked patties were transferred on to a wax coated paper, wrapped and stored in a freezer at -10C along with all other cooked patties until analysis (not more than a week).

Chemical analysis: The patties were analyzed for protein, ether extract and moisture following the AOAC methods (1980).

---

[1]Professor, [2]Research associate

Results and Discussion

The chemical composition of the ground beef patties (Fig. 1) shows the fat content of patties cooked by the Instant Burger method to have 4.5 % less fat than those cooked by the regular grill method. When one considers that 1 g of fat contains 9.02 calories, this would suggest that beef patties cooked by the Instant Burger method provide a lower calorie intake per patty. Janciki and Appledorf (1974) reported a similar decrease in crude fat content of ground beef patties cooked by microwave, but found no difference in the fat levels of patties cooked by broiling or grill frying. Therefore, based on these data, one may conclude that Instant Burger cooking of hamburger patties may be beneficial for persons on a low fat diet as well as for that segment of the population prone to the risk of cardiovascular diseases and for all other people who are concerned about fat in the diet.

It is of further interest to note that beef patties cooked by the Instant Burger method retained 7.2 % more moisture than those cooked on the grill. This greater moisture level would indicate more palatability in the form of a juicier burger. Eventhough the protein content of Instant Burger cooked patties was 2.7 % lower than the grilled patties, the protein level would still be adequate for good human nutrition.

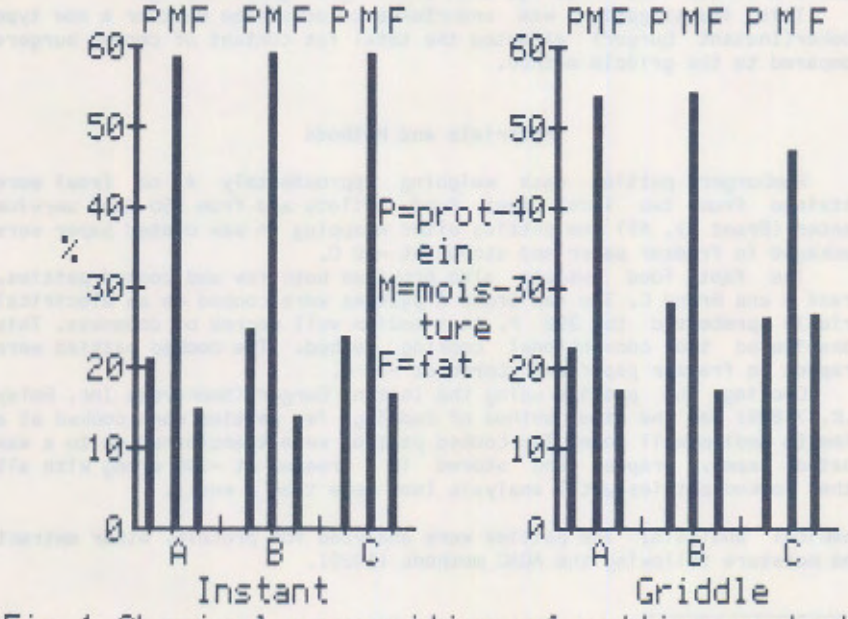

Fig 1. Chemical composition of patties cooked by different methods.

Literature Cited

AOAC, 1980 "Official Methods of Analysis". 13 th ed. Association of Official Analytical Chemists. Washington, D.C.

Janciki, L.J. and H.Appledorf. 1974. Effects of broiling, grill frying and microwave cooking on moisture, some lipid components and total fatty acids of ground beef. J. Food Sci. 39: 715.

Reiser, R. 1978. Over simplification of diet, coronary heart disease relationships and exaggerated diet recommendations. Amer. J. Clin. Nutr. 31: 865.

Reddy, B.S. 1981. Dietary fat and its relatioship to large bowel cancer. Cancer Res. 41: 3700.

Wyndler, E.L. 1975. An epidemiological evaluation of the cause of cancer of the pancreas. Cancer Res. 35: 2228.