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INNOVATIVE PACKAGING FOR NORTHWEST FOOD PROCESSORS

by

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INTRODUCTION

Good morning! As most of you know, the Northwest is nationally famous for its canned, frozen and dehydrated food products. In fact, there are approximately 70 major firms in this region producing processed food products at a combined production value of over \$2 billion. These food processors have a considerable impact on the regional economy by:

1. Paying growers for raw product to be processed of over \$500 million annually. These dollars have a great multiplier affect on the agriculture base of the Northwest;
2. Employing thousands of seasonal workers which provides millions of dollars to Northwest payrolls; and
3. Marketing over half of their production outside of the Pacific Northwest which generates significant economic growth and wealth for the region.

For these reasons, the health and competitiveness of Northwest food processors is vital to the regional economy. However, explosive escalation in supply and general overhead costs has caused great concern among Pacific Northwest canners and packers; mainly due to the real possibility of adverse consumer reaction towards higher retail and institu-

tional food prices. At the same time, the processing industry has had to deal with volatile commodity markets which dictates its raw material costs, as well as increased packaging and transportation costs and higher wages.

To protect themselves against such cost spirals, the nation's food processors are making major efforts to control their processing costs and develop new cost-saving packaging methods. However, the Pacific Northwest processors, particularly the independent, locally-owned firms, are heavily invested into traditional canning and freezing processes. Thus, it has been difficult for them, if not impossible, to invest and compete in the research and development of new packaging techniques undertaken by the large multinational firms. Industry sources indicate to us that the costs of packaging and transportation are growing at nearly double the rate of increase in basic food costs. The current cost components on canned vegetables, for example, reflect a growing disparity between the components themselves, as follows:

Food Costs	27%
Packaging	44%
Transportation	29%
TOTAL COSTS	100%

Because of these cost factors, Northwest food processors have seen traditional

Eastern and Southern U.S. markets erode over the past decade in favor of processors located in the Midwest. Until ten years ago, for example, about half of the market for Northwest canned and frozen foods was east of the Mississippi (where approximately two-thirds of the people live). Now, markets for Northwest processed foods are almost entirely in the Western United States.

Raw product, packaging and freight are the three major cost items that appear to be pulling Pacific Northwest processors down in the spiral of overheads, and there is not much cause to think that any of these factors are going to change substantially. Thus, it is order for them to survive the competitive marketplace, the region's processors need to focus on better, more efficient methods of processing.

With packaging and transportation costs accounting for nearly three-fourths of the wholesale price of delivered Northwest processed foods, there exists a definite need within the industry to explore new packaging methods which will:

1. Lower the overall weight of the final product;
2. Reduce cost levels in packaging methods (such as labor, time, material, etc.);
3. Offer new packaging alternatives for the consumer and institutional user, and
4. Cause a reduction in freight charges.

New packaging technology has revealed innovative methods which could have the potential capability of fulfilling the above needs for Northwest food processors. The flexible, retortable pouch (plastic bag) seems to hold the greatest potential. The pouch is being touted as a revolutionary food container that combines the economy of canning with the

quality of freezing, and is said to be the greatest development since the tin can. It is made of aluminum foil sandwiched between plastic sheets. As in canning, food is poured into the pouch on the production line, air is evacuated and pouches are sealed, then cooked under pressure.

The retort bag is noted for the following qualities:

- Brine is reduced, thus food quality is enhanced.
- Better shelf life than metal cans.
- No refrigeration required by the processor, transporter or retailer.
- Weight and volume of like quantities would be reduced 40 percent (by eliminating water as a cooking medium).
- Cooking time is reduced (lowering cost of energy use).
- Space saving of the empty container inventory would be up to 85 percent (compared to canned inventory).
- Transportation weight of empty containers is reduced by 80 percent.
- Product could be prepared in the bag easily by the end user.
- Filled pouches require less space. (Cans utilize 78 percent of total space, while pouches utilize 98 percent of available space.)
- Clean-up and disposability of used container is simplified with the pouch.

Northwest food processors have not readily incorporated retort bags into their packaging operations for three major reasons: first, the large capital investment necessary to change over the packing operation (about double the investment for cannery machinery and equipment); second, the retort bag line speed per unit currently is from 40 to 100 and does not meet up with canned or frozen line speed of up to 400 per minute; and third, the questionable acceptability of retort pouches by the consumer and institutional market, both domestic and foreign.

To assist food processors, both in our own state and the Northwest, the Oregon Department of Agriculture has taken the initiative to develop a program on innovative packaging. The overall purpose of this project is to provide Pacific Northwest food processing firms key information on the potentials for utilizing the retort bag in their operations, both from the standpoints of production and marketing feasibility.

As a funding source for this project, we intend to apply to the Pacific Northwest Regional Commission for a grant of approximately \$30,000 (budget details are still being considered).

For your information, the PNRC is a federal-state partnership composed of the governors of Idaho, Oregon and Washington and a federal co-chairman appointed by the President. It was established in December of 1972 under the Public Works and Economic Development Act of 1965. The primary mission of the Northwest Regional Commission is to initiate processes and programs designed to improve the economy and quality of life in the region.

To determine and substantiate need for such a project as proposed by our department, we conducted a brief survey among Northwest food processors early this summer. We found various reactions to our project proposal. As suspected, the larger processors did not feel such a project would hold many benefits to them since they already have ongoing test programs to implement retort pouches or other forms of innovative packaging. In addition, a number of the large firms already are using retort pouch packaging in their operations. However, a large share of the smaller, independent processors expressed a definite interest in such a project. The biggest concern of these smaller processors is to have equipment and machinery for retortable pouches available for testing purposes. They need to compare costs and line speed with

existing cannery equipment. If retort pouches are at least competitive with existing costs, they could justify investment in new equipment and machinery.

On the market side, independent processors would like to test market retort pouch containers of Northwest foods, particularly vegetables such as beans, peas and corn, in institutional packs among the hotel-restaurant trades. The institutional market, mainly in the Southwest and Midwest U.S., seems to hold the greatest potential for the concept of retort pouch packaging of Northwest foods. In addition, the export market, particularly in Asia, also looks very promising.

Based on the feedback received from this survey, our department is in the process of designing an innovative packaging project which will best satisfy the requirements of Northwest processors.

As we see it now, the goals of the objective are twofold: first to determine the feasibility of incorporating retortable pouch bags into plant operations of Northwest processors, and second, to investigate acceptability and trade opportunities for retort bags containing Northwest food products into the domestic and foreign marketplace.

To accomplish the first goal will require the following activities:

- (1) Analysis of the current "state of the art" on retort bag technology with major supplying firms.
- (2) Survey among Northwest food processing firms to determine current production costs and future potential of incorporating retort bag technology.
- (3) Placement of at least one retort bag machinery in a Northwest plant or university to test run packed samples in select markets.

To accomplish the second goal will require the following activities:

- (1) Research of domestic and foreign markets to identify key areas considered to have the highest potential for Northwest foods packed in retort bags.
- (2) Placement of retort bags containing Northwest foods in test markets to determine acceptability--both retail and institutional.
- (3) Determine from the retort bag characteristics (such as size, cost, etc.) those which would have the greatest saleability in the marketplace.

With information generated from the project, Northwest processing firms will have the opportunity to understand the production and market aspects of retort

bag technology, and how this could be applied to their business; thus reducing risks in changing over their processing operations.

In the long run, the project is expected to enhance interest for the development of innovative packaging methods among the regions' food processors through the use of retort bag technology which will assist them in holding down or lowering packaging costs. Thus, the economic impact of the project will be to maintain the cost competitive position of food processors in this region with other producing areas, and possibly open up new markets due to the lower-cost, lighter weight, innovative packaging techniques.

A FRAMEWORK FOR THE ANALYSIS OF THE IMPACTS OF SELECTED NONFOODS, FOODS,
AND SOCIOECONOMIC AND DEMOGRAPHIC CHARACTERISTICS ON THE DECISION
TO PURCHASE VARIOUS MEATS AND SEAFOODS FOR HOME CONSUMPTION

by

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INTRODUCTION

Due in large part to dramatic changes in lifestyles in the past two decades and the occurrence of rapid changes in the food system, the provision of assessments of the impacts of policies and programs on all participants in the food system, especially consumers, is crucial. In general, the basic thrust of food economics is to provide analytical support and policy analyses of the economic aspects of food consumption. Successful economic

policies stem from sound economic policy research, and so, interest lies in the development of research tools and techniques to explain the impact of economic forces that influence food consumption. The development of traditional and non-traditional models of the economic behavior of households with particular emphasis on behavior with respect to food consumption and the improvement of techniques of demand analysis which encompass methods for analysis of time series, cross section, and panel data serve