

**RESEARCH PROPOSAL FOR 1990**  
**SUBMITTED TO:**  
**SLV RESEARCH CENTER COMMITTEE**  
**AND THE**  
**AREA II POTATO ADMINISTRATIVE COMMITTEE**

TITLE: Sensory and chemical evaluation of the flavor components in potatoes

PROJECT LEADER: Joseph A. Maga, Ph.D., Department of Food Science and Human Nutrition, Colorado State University, Fort Collins, CO 80523

PROJECT JUSTIFICATION: More and more consumers are making their food purchasing decisions based on product flavor. Presently, this concept has even been extended to the fresh potato market with the availability of Yukon Gold potatoes, which are being promoted for their "unique buttery flavor."

The scientific community has attempted to investigate the key intermediates and resulting compounds responsible for potato flavor. From these studies, it can be concluded that pyrazines contribute the most to good and characteristic potato flavor.

PROJECT OBJECTIVES/METHODOLOGY: Therefore, it is proposed that pyrazines will be extracted, identified and quantitated in potatoes as influenced by variety/clone, maturity, storage time, and method of preparation (baking in both conventional and microwave ovens). These results will be correlated with sensory taste panel results.

ANTICIPATED BENEFITS: This technique should provide a relatively simple yet accurate analytical tool to predict potato flavor quality and will prove quite useful in screening new clones for their flavor potential.

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| FUNDING REQUEST: | Total requested:   | \$750 |
|                  | Taste panel supplies:  | 100   |
|                  | Solvents, gases and columns for<br>gas chromatographic analyses: | 650   |