

Part II

INTRODUCTION

Introduction

Grading is a means of sorting a particular food product—e.g., apples—into two or more groups based upon criteria selected for sorting. Grades cannot be used for sorting across products—i.e., apples versus pears—only within a product—i.e., one apple from another apple. The purpose of grades is to facilitate exchange of products between trading partners by providing information about the product. Assignment of a grade to any food product requires some base criteria, as the grade itself imparts the criteria used in its determination.

Both industry and consumers have a stake in whether food products are graded, what criteria are chosen for the grade if a product is graded, how the information is conveyed, and where the grading is done in the vast food distribution system from farmer to consumer (see figure 1). Such issues have recently surfaced as congressional concerns. This report details the issues surrounding retail food grading and identifies congressional options with respect to the issues.

To assist in making purchase decisions, consumers need a variety of information on wholesomeness, safety, nutrition, ingredients, price, weight, and sensory characteristics. Grading can be viewed as a mechanism for providing information on any one or a combination of these items.

Perhaps the three most essential information requirements for consumers are:

- the wholesomeness and safety of a product;
- the nutritional value of a product; and
- the product's sensory characteristics.

To view the possible role Federal food grades could play in providing information in these areas, it is necessary to review current Federal programs which interact with these consumer information requirements (table 1).

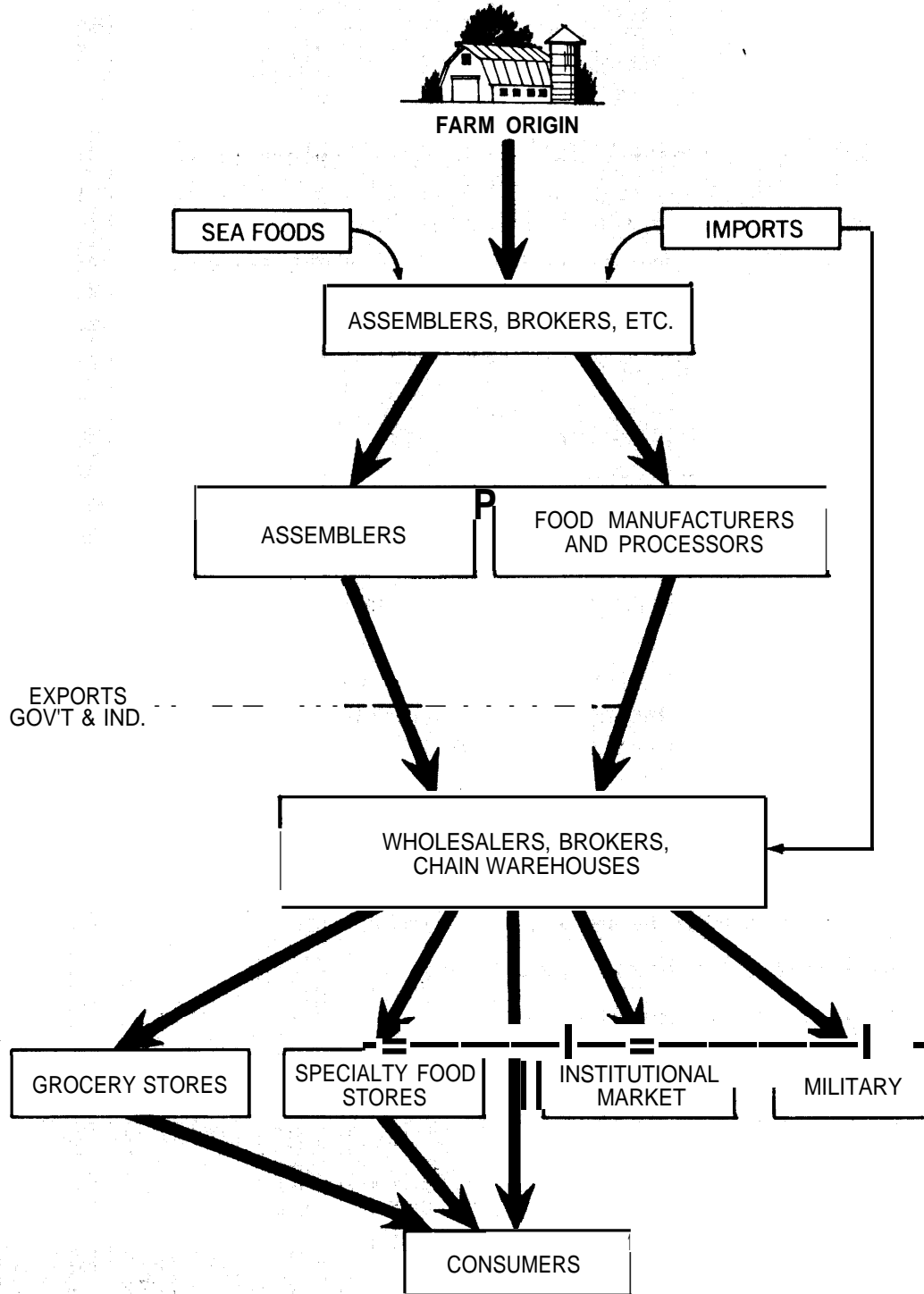
Wholesomeness and Safety

For wholesomeness and safety of a product, there are numerous programs providing that assurance to consumers. * For example, Federal and State mandatory inspection

*Wholesomeness refers to defects in food products which are not a health hazard to consumers. Safety means that the product will possess no defects or impurities which present a health hazard.

programs apply to fresh meat and poultry. In fresh fruits and vegetables the Environmental Protection Agency (EPA) established tolerance levels for insecticides and the Food and Drug Administration (FDA) monitors these levels and levels of any other additives. In processed food products, good manufacturing practice regulations are written and en-

Figure 1.
Flow of Food From Farm to Consumer



SOURCE: Office of Technology Assessment

Table 1– Availability of Consumer Information for Food

Consumer Information Requirements	Information or Service Currently Provided by Major Food Categories		
	Fresh Meat & Poultry	Fresh Fruits & Vegetables	Processed Food Products
Wholesomeness/ Safety	USDA and/or State Inspection	EPA – Establishes tolerance levels of insecticides FDA– Monitors insecticide level	FDA* –Good manufacturing practices. Standards of identity.
Nutrition			Nutritional labeling Meat – USDA All others– FDA
Sensory Characteristics	USDA Grades**	USDA Grades	USDA Grades

*Work in coordination with U.S. Department of Agriculture and Department of Commerce

**For fish – U. S. Commerce Grades.

forced by FDA in cooperation with the U.S. Departments of Agriculture (USDA) and Commerce (DOC). Thus, wholesomeness and safety are adequately regulated in the major food categories. Each of these programs is discussed in detail in following sections of this report.

Nutrition Information

Nutrition information is conveyed to consumers through nutritional labeling of processed foods, such as canned or frozen products. This information includes the amount of protein, fat, carbohydrates, and calories per serving. In addition, the product's percentage of U.S. Recommended Daily Allowance (RDA) for important minerals and vitamins is also included on the package label (see figure 2) . Nutritional labeling is voluntary/mandatory; that is, a manufacturer does not have to put nutritional information on the product, but if nutritional labeling is used, it must conform to Federal standards for such labeling. However, when a manufacturer makes a nutritional claim for its product or adds nutrients, nutritional labeling becomes mandatory in most cases.

The use of nutritional labeling currently applies only to processed foods. FDA ad-

ministers the program for all processed foods except processed meat and poultry, which come under the jurisdiction of USDA. For fresh meat and poultry, and fresh fruits and vegetables, there are currently no Federal nutritional labeling standards. Even though the nutritional labeling program exists, there is still concern among Government officials about nutrition education. As Dr. Robert Angelotti, Associate Director for Compliance, Bureau of Foods, FDA, stated:


There are segments of our population that eat improperly, because there is socioeconomic pressure on them no doubt, but nevertheless they eat improperly. There are other segments of our population that eat improperly, but they do so willfully and by choice and they can afford it. Nevertheless, we (Government) should be reaching both kinds of people and trying to teach them what is good nutritional

Dr. Angelotti indicated that one of the objectives of the current nutritional labeling program was education:

One of the objectives of the nutritional labeling system was an attempt to teach good nutritional habits to people. **The nutritional labeling in operation today is, in part, a teaching tool. Not**

¹Workshop, vol. I, p. 49.

Figure 2.
Nutritional Labeling



U.S. RDA

The U.S. RDAs are the amounts of protein, vitamins and minerals people need each day to stay healthy. These allowances are set by the Food and Drug Administration. They are based on body needs for most healthy adults. Set at generous levels, they provide a considerable margin of safety for most people above minimum body needs for most nutrients. Nutrition labels list U.S. RDAs by percentage per serving of food. For example, if the nutrition label says "Vitamin A-10," that means a serving of the food contains 10 percent of the U.S. RDA for Vitamin A. U.S. RDAs replace the outdated "Minimum Daily Requirements" (MDR).

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U.S. RECOMMENDED DAILY ALLOWANCES (U.S. RDA)	
For adults and children over 4 years old	
NUTRIENTS	AMOUNTS
Protein	45 or 65 grams**
Vitamin A	5,000 International Units
Vitamin C (ascorbic acid)	60 milligrams
Thiamine (vitamin B ₁)	1.5 milligrams
Riboflavin (vitamin B ₂)	1.7 milligrams
	20 milligrams
Calcium	1.0 gram
Iron	18 milligrams
Vitamin D	400 International Units
Vitamin E	30 International Units
Vitamin B ₆	20 milligrams
Folic acid (folacin)	0.4 milligram
Vitamin B ₁₂	6 micrograms
Phosphorus	1.0 gram
Iodine	150 micrograms
Magnesium	400 milligrams
Zinc	15 milligrams
Copper	2 milligrams
	0.3 milligram
Pantothenic acid	10 milligrams

**45 grams if protein quality is equal to or greater than milk protein
65 grams if protein quality is less than milk protein

SOURCE: DHEW Publication No. (FDA) 76-2049.

only does it give you nutritional information, but it gives it to you in a way that you eventually come to understand that there is a 100 percent value for some Recommended Daily Allowance (RDA) figure. It is clear you should be striving to meet that RDA requirement through your total diet throughout the day.²

Sensory Characteristics

Federal food grades presently provide information about a food product's sensory or quality characteristics, such as color, blemishes, taste, and/or flavor. This information is presently available for all the major food categories.

Federal grade standards for agricultural products evolved in the 1920's as a mechanism to facilitate wholesale transactions for the food industry. Despite the original intent,

the question arises as to whom grades should serve: consumers, industry, or both. Present Federal food grades impart little information to the consumer for most commodities. If Federal grades are to have a potential consumer-information role, it becomes necessary to determine the kind of information useful to consumers and the mechanism necessary to convey this information.

Given this situation, this report explores the potential informational role of Federal food grades for consumers. For example, should Federal food grades continue to provide information on sensory differences of food products as they do now but perhaps have uniform nomenclature and be used more extensively at retail? Should Federal food grades provide information on a product's nutritional value? What other kinds of information could Federal food grades convey to consumers?

²Ibid., pp. 49-50.

PURPOSE

This assessment analyzes alternative purposes food grades could serve in providing the consumer with more information in the marketplace. More specifically, this report:

1. Develops the issues surrounding the present grading program for food;

2. Reviews current programs addressing these issues; and

3. Analyzes the potential role and impact of Federal food grades at retail.

METHODOLOGY

To accomplish these purposes, a staff background document was prepared identifying the issues in the present grading program. Issues were determined via interviews with representative groups affected by grades—Government, industry, consumers. Second, an advisory group workshop was convened to review the background document and to further elaborate on the issues. The advisory groups consisted of a broad and balanced representation of affected groups including food processors, consumers, researchers, and Government regulatory agencies (appendix c).

The advisory group convened for a 2-day conference in July 1976. The group addressed

themselves to the staff background document and to a list of issues and potential implications distributed prior to the workshop. The first day of the workshop the group met as a whole to discuss and elaborate on the issues in general. The second day the group divided into three working groups representing the processed foods, fresh fruits and vegetables, and fresh red meat areas. In each group the participants elaborated on the issues and implications of retail food grading for that particular food category. This report is thus a combination of the staff background document and the results of the workshop.