

**THE  
MACARONI  
JOURNAL**

**Volume 63  
No. 6**

**October, 1981**

# Macaroni Journal

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SPAGHETTI WITH BRAISED SHORT RIBS

OCTOBER, 1981







## PASTA WEEK—a national publicity effort for pasta products

### Publicity Covers National Pasta Week in Every Media

National Pasta Week, October 1-10. This year our theme plays up the low-calorie and versatility aspects of pasta products:

#### Eat Light With Pasta

This slogan will be incorporated into our television kit for National Pasta Week. And it is also the headline of our new leaflet, just out, which includes nine calorie-counted recipes: Macaroni Salad with Yogurt Dressing, Red Ring Macaroni Salad, Skillet Macaroni and Franks, Spaghetti-Vegetable Casserole, Zucchini-Noodle Bisque, Tuna-Yogurt Spaghetti Bake, Macaroni and Ham, Cole Slaw, Spaghetti with Tomato-Chive Sauce, Macaroni-Vegetable Salad.

A secondary theme continues to be Pasta... Food for Athletes and the nutrition story, incorporating complex carbohydrates significance, is included in all of our press releases.

Early in the new promotional year we distributed a picture story to the grocery trade headlined Eat Light With Pasta. American Grocer, Food Promotions and bunches of state magazines carried the photo and story reminding retailers of pasta's versatile role in the "Light" eating trend.

Supermarket consumer specialists will get leaflets: Eating Light With Pasta.

#### Media Placements

Major market daily newspapers will receive black and white photographs as well as color with recipes and story material stressing the basic appeals of pasta products. These are supplied on an exclusive basis to food editors in 265 standard metropolitan areas.

The Sunday Supplement, Family Weekly, plans to use a pasta feature. Newspaper Syndicates to receive placements include Newspaper Enterprise Association, Associated Press, King Features, United Features, Copley News Service, Westchester Rockland Newspapers, Los Angeles Times, New York Daily News, and General Features.

In the black press releases have gone to Amalgamated Publisher, Afro-American Newspapers, Atlanta Daily World, Birmingham Mirror, Houston Daily Informer, Pittsburgh Courier.

Radio script will be sent to 700

commentators of women's interest programs nationally.

#### Press Party

An Annual special event, the Macaroni Family Reunion at Trio A Segno, famous Italian cuisine in the village of New York City, saw more than 100 members of the New York media from magazines, newspaper syndicates, local newspapers, syndicated Sunday supplements, television and radio mingle with macaroni manufacturers from the National Pasta Association who updated them on current trends and the wheat situation. President Lester R. Thurston, Jr. made brief remarks on the past year's accomplishments.

#### Materials Available

Posters: Background - Milling & Pasta Manufacturing diagram - 50¢ plus postage and handling. "19 Varieties of Pasta" - 35¢.

Background Material: "Pasta Portfolio" - \$1 per copy. Free samples of mimeograph material that can be copied: "The Discovery of Macaroni", legends and folktales.

"Macaroni Products - Versatile Foods"; "About Noodles"; "Deck the Halls... with Macaroni" - pasta as handicraft material.

Leaflets - 12¢ each plus 25¢ postage and handling; \$10 per hundred plus freight.

"Nutritive Values of Macaroni, Spaghetti, and Egg Noodle Products"; "Pasta Primer" - basic background piece.

"12 Award Winning Pasta Recipes"; "Macaroni Is No. 1"

"One-Pot Pasta Suppers from the Freezer".

"For Weight Control - Use Your Noodle".

"Back to Basics"

"Entertaining with Pasta"

"Unimac Cookery" - pasta quickies for singles and doubles.

"Pasta... Food for Athletes."

Foodservice Manual - \$10 per copy.

- (1) Pasta as a Sales Tool.
- (2) What is Pasta? Some Definitions.
- (3) Pasta Categories and Shapes.
- (4) Packaging, Storage, Cooking Directions.

- (5) Food service equipment and pasta preparation.
- (6) Nutrition and calorie counts.
- (7) Cost-Yields of pasta products and trade-up tips.
- (8) Merchandising pasta.
- (9) Pasta in trade and foodservice media.

#### Typical Releases

Home economists of the National Pasta Association have developed a recipe series designed for single and two member households. They require a minimum of ingredients, time and effort... ideal for people on-the-go who have only minutes to spare at mealtime. These meals are nutritious.

The procedure is simple. Prepare enough for one menu - freeze another portion for later use. Try three pasta favorites. Mix cooked macaroni with process cheese spread for Macaroni and Cheese. Toss spaghetti with prepared marinara sauce and you have Italian Spaghetti. Stir egg noodles and mixed vegetables (great use for leftovers) into beef broth for a hearty soup repast.

#### Excellent Nutrition

Enriched pasta made from durum and/or other high quality wheat offers excellent nutrition. Read the information on the package when purchasing. The carbohydrate content supplies energy. Note the protein content and the B vitamins - niacin, thiamine and riboflavin in addition to iron. Calorie counters appreciate that two ounces of uncooked macaroni and spaghetti contain only 210 calories... 220 in egg noodles.

#### Speedy Macaroni and Cheese

(Makes 2 servings)

- 1 cup elbow macaroni (4 ounces)
- 1½ teaspoons salt
- 1½ quarts boiling water
- ¾ cup process pasteurized cheese spread

Gradually add macaroni and salt to rapidly boiling water so that water continues to boil. Cook uncovered, stirring occasionally, until tender. Drain in colander. Return macaroni to cooking pot. Add cheese spread. Cook and stir over low heat until mixture is smooth and heated through. Dine on half immediately; freeze remainder for another meal.



Speedy Macaroni and Cheese



Italian Spaghetti



Hearty Noodle Vegetable Soup

Microwave reheating: cover frozen microwave-proof casserole and microwave about 7 minutes or until hot.

Conventional heating: cover frozen casserole and bake in 375°F. oven about 40 minutes or until hot.

For two person household: double all ingredients and proceed as above. (Makes 4 servings)

Microwave reheating: cover frozen microwave-proof casserole and microwave about 11 minutes, turning after 6 minutes.

Conventional reheating: cover frozen casserole and bake in 375°F. oven about 1 hour.

#### Italian Spaghetti

(Makes 2 servings)

- 4 ounces spaghetti\*
  - 1½ teaspoons salt
  - 1½ quarts boiling water
  - 1½ cups prepared marinara sauce
- Gradually add spaghetti and salt to rapidly boiling water so that water continues to boil. Cook uncovered, stirring occasionally, until tender. Drain in colander. Return spaghetti to cooking pot; add marinara sauce. Cook and stir until heated. Dine on half immediately; freeze remainder for another meal.

Microwave reheating: cover frozen microwave-proof casserole and microwave about 7 minutes or until hot.

Conventional reheating: cover frozen casserole and bake in 375°F. oven about 40 minutes or until hot.

For two person household: double all ingredients and proceed as above. (Makes 4 servings)

Microwave reheating: cover frozen microwave-proof casserole and microwave about 11 minutes, turning dish after 5 minutes.

Conventional reheating cover frozen casserole and bake in 375°F. oven about 45 minutes or until hot.

\*Note: To measure 4 ounces spaghetti, hold enough upright tightly in hand to completely cover surface of a quarter.

#### Hearty Noodle Vegetable Soup

(Makes 2 servings)

- 3 ounces medium egg noodles, about 2 cups
- 1½ teaspoons salt
- 1½ quarts boiling water
- ½ cup cooked mixed vegetables
- 2 packets instant beef broth (.19 ounces each)
- 1½ cups water

Gradually add noodles and salt to rapidly boiling water so that water continues to boil. Cook uncovered, stirring occasionally, until tender. Drain in colander. Return noodles to same pot. Add vegetables, beef broth and 1½ cups water. Cook and stir until heated. Dine on half immediately; freeze remainder for another meal.

Microwave reheating: cover frozen microwave-proof casserole and microwave about 7 minutes or until hot.

Conventional reheating: empty frozen contents of container into small saucepan. Heat over medium heat until hot, stirring occasionally.

For two person household: double all ingredients and proceed as above. (Makes 4 servings)

Microwave reheating: cover frozen microwave-proof casserole and microwave about 12 minutes, turning casserole after 4 and 8 minutes.

Conventional reheating: empty frozen contents of container into medium saucepan. Heat over medium heat until hot, stirring occasionally.

#### More For Your Time! More For Your Money!

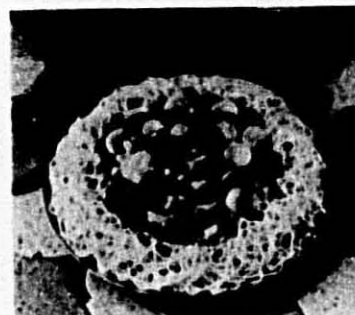
Supermarket trips are carefully planned excursions as shoppers keep a keen eye open for the best values. Pasta continues to appear at the check-out counter as homemakers realize its values. You can serve more economical, more nutritious, more varied, more easily cooked dishes with egg noodles, elbow macaroni and spaghetti as the base.

As increasing number of women work outside of the home, recipes requiring a minimum of kitchen time are in demand. How about a nourishing egg noodle dinner which is ready for the table in about fifteen minutes? This great tasting timesaver comes from the home economists of the National Pasta Association. While noodles are cooking in one pan so is a beautiful bouquet of vegetables—onion, carrots, corn and green beans. The sauce makes itself as the noodles are tossed with butter and vegetables mixed with garlic, parsley and butter. There it is—tender egg noodles and vegetables in a seasoned butter sauce—and the cook has been on duty for a quarter of an hour.

Conventional reheating: empty frozen contents of container into small saucepan. Heat over medium heat until hot, stirring occasionally.

For two person household: double all ingredients and proceed as above. (Makes 4 servings)





**Spaghetti and Vegetables With Cheese Sauce**

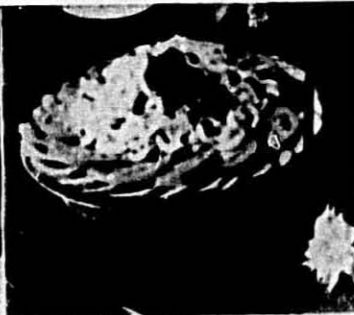
Spaghetti and Vegetables With Cheese Sauce (make 4 to 6 servings)

- Salt
- 1 cup water
  - 1 package (10 ounces) frozen peas and carrots
  - 1 package (10 ounces) frozen yellow squash slices
  - 1 can (10 3/4 ounces) condensed cream of celery soup
  - 1 cup milk
  - 1/2 cup shredded Swiss cheese (about 2 ounces)
  - 1/2 cup shredded Cheddar cheese (about 2 ounces)
  - 2 tablespoons chopped chives
  - 1/2 teaspoon thyme leaves, crushed
  - 3/4 teaspoon prepared mustard
  - 8 ounces spaghetti
  - 3 quarts boiling water

In a saucepan, heat 1 cup of water with 1 teaspoon salt to boiling; add peas and carrots and squash. Heat to boiling; separate squash with a fork. Reduce heat and cook covered until vegetables are tender about 5 minutes; drain. Keep warm.

In a saucepan, combine undiluted soup, milk, Swiss cheese, Cheddar cheese, chives, thyme, mustard and 1/4 teaspoon salt. Heat until mixture is hot and cheese is melted, stirring constantly with a wire whisk.

While vegetables and sauce are being prepared, gradually add spaghetti and 1 tablespoon salt to rapidly boiling water so that water continues to boil. Cook uncovered, stirring occa-



**Macaroni Salad Special**

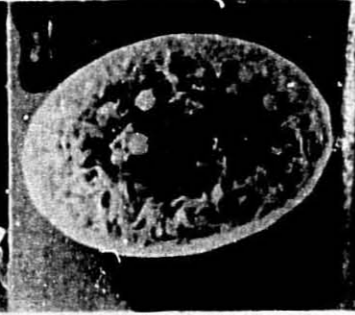
Macaroni Salad Special (makes 6 servings)

- 2 cups elbow macaroni (8 ounces)
- Salt
- 3 quarts boiling water
- 1 can (12 ounces) luncheon meat, cubed
- 1/2 pound American cheese, cubed
- 1 can (21 ounces) kidney beans, well drained
- 2 hard-cooked eggs, chopped
- 1 cup diced celery
- 1/2 cup sweet pickle relish
- Sliced radishes, optional
- 1/2 cup sour cream
- 1 tablespoon prepared mustard
- 2 tomatoes, sliced
- 1 cucumber, scored and sliced

Gradually add macaroni and 1 tablespoon salt to rapidly boiling water so that water continues to boil. Cook uncovered, stirring occasionally, until tender. Drain in colander. Rinse with cold water; drain again.

In large bowl, combine macaroni, luncheon meat, cheese, kidney beans, eggs, celery, pickle relish, radishes and 1/4 teaspoon salt; toss until well combined. In small bowl, mix mayonnaise, sour cream and mustard; stir until well blended. Cover and refrigerate salad and dressing.

To serve: arrange salad on platter. Garnish with tomatoes and cucumber. Serve with dressing.



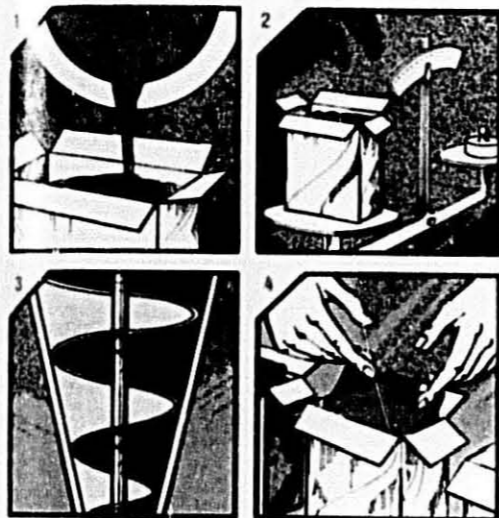
**Fifteen Minute Noodle Dinner**

Fifteen Minute Noodle Dinner (makes 4 to 6 servings)

- 8 ounces medium egg noodles (about 4 cups)
- 1 tablespoon salt
- 3 quarts boiling water
- 1 cup butter or margarine, cut into pieces
- 1 cup water
- 1 cup frozen small whole onions
- 1 cup thinly sliced carrots
- 1 package (10 ounces) frozen whole kernel corn
- 1 package (9 ounces) frozen cut green beans
- 1 small garlic clove, crushed
- 1/4 cup finely chopped parsley

Gradually add noodles and 1 tablespoon salt to 3 quarts rapidly boiling water so that water continues to boil. Cook uncovered, stirring occasionally, until tender. Drain in colander. Turn noodles into bowl. Add 1/2 cup butter and toss until butter is melted.

While noodles are cooking, prepare vegetables. In a large saucepan, heat 1 cup water and 1 teaspoon salt to boiling. Add onions; reduce heat to medium. Cover and cook until almost tender, about 5 minutes. Add carrots, corn and beans. Heat to boil separating beans and corn. Reduce heat to medium and cover; cook until all vegetables are just tender, about 5 minutes. Drain. Add remaining 1/2 cup butter, garlic and parsley to cooked vegetables; toss until butter is melted. Arrange vegetables over hot noodles on serving plate.



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# PUSH PASTA



## Durum Harvest Tour

Photos by Joseph DeFrancisci III

A group of 20 National Pasta Association representatives were given the Trade Tour treatment by the staff of North Dakota State Wheat Commission in mid-August as they toured Durum Country from Bismarck in the center of the state to the Langdon substation on the Canadian border down to the campus of North Dakota State University at Fargo and on to the Grain Exchange in Minneapolis.

They saw a beautiful crop in great contrast to drought conditions of a year ago. It is not perfection, however as Vance Goodfellow of the Crop Quality Council pointed out heat stress in some fields that had reduced yields, fungus and scab created by too much moisture, and even the possibility of some sprout damage in areas that had unwanted rain at harvest time.

By and large, though, with record production of a quality crop, the farmer is concerned with rapidly falling prices and how he is going to meet high interest rates that have a noose around his operations.

### Bismarck Breakfast

At a Bismarck breakfast Kent Jones, North Dakota Commissioner of Agriculture, declared equity is being used to carry on operations under these high interest rates, and the grower is facing poor prices with an abundant crop. Transportation is a problem with railroads disappearing on spur lines particularly. He noted that 2,000 miles of track have already been abandoned.

Bob Caudell of the State Bank loan department stated that high land costs, equipment, and interest make it very difficult for young people to go into farming, but delinquency rates are low.

### Visit Weckerly Farm

Norm Weckerly, President of the U.S. Durum Growers Association, said low prices would be the farmers' number one problem with concern about where transportation and marketing are going.

At his farm in Hurdsfield an array of equipment showed how prices have skyrocketed in recent years. A Versatile 700 tractor that cost \$24,000

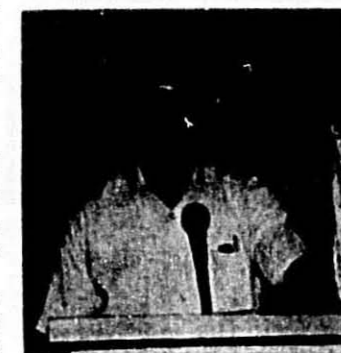


Tony Braunogel talks Les Thurston about farming.

in 1972 now goes for \$67,500. A gallon of 2-4-4 herbicide cost \$4.60 in 1974; it is now \$9.00, and so on.

Wells County agent Levon Kirkeide put capital farm needs at \$790 per acre, of which \$600 is in land, \$120 in machinery, and \$70 in seed and fertilizers. Moisture requirement per bushel of wheat is 5-6 inches. Each additional inch gives plus six bushels. A husband and wife team can handle 1,000 acres, and with a hired man probably 2,000 acres. Because a hired man represents labor costs, they try to eliminate him with equipment which requires mechanical skills for maintenance, a vast array of talents to cope with weeds, insects, and diseases, and management skills for capital procurement and financial management.

Bill Onsted, a young farmer who graduated high school in 1969, bought two quarters of land, and then went to North Dakota State University, bought his third quarter



Norman J. Weckerly

of land in 1973, and got married in 1974. He said: "You gotta have a launching pad to go into a million dollar business. If you and/or your wife do not have a father who can give you a start, it is almost impossible to go into farming."

North Dakota has a lot of new energy wealth, and Mexicans with oil money are buying pinto beans in Wells County where they are grossing \$500 an acre and cutting into wheat acreage.

### Elevator in Fessenden

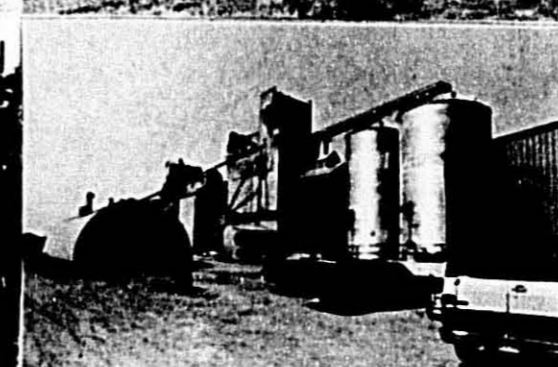
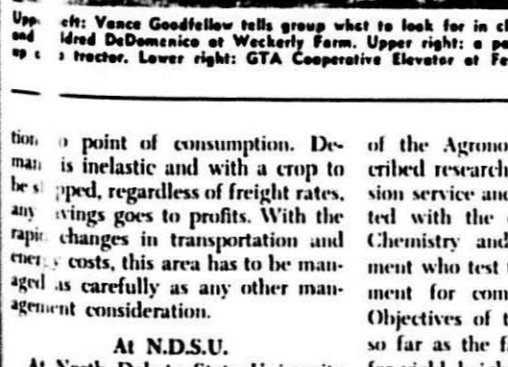
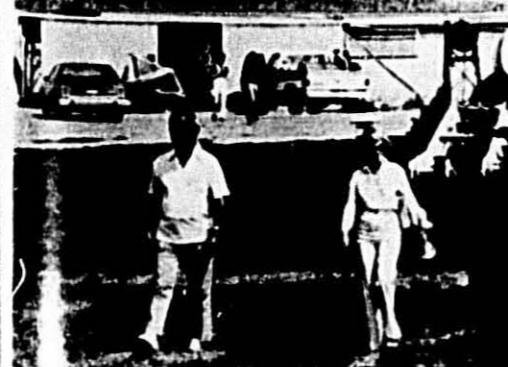
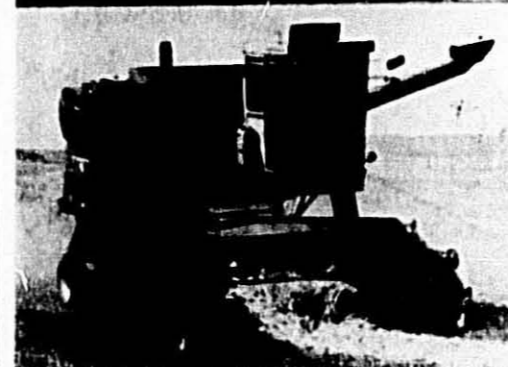
At a co-op elevator in Fessenden, manager Lyle Wipf showed the group how grain comes to the elevator from the farm. It is graded, stored, or sent to market. In addition to buying crops and merchandising them, they sell farm supplies and fertilizers. Row crops became important in 1975 with the introduction of pinto beans and sunflowers. Quality and grading factors have been hard on durum. Market information comes instantaneously by computer from the Minneapolis Exchange.

### At Langdon

At the NDSU branch experiment station in Langdon plant breeder Roy Cantrell showed the group through test plots where strains and crosses are increased over a ten-year span. Promising crosses are taken to Yuma, Arizona, or Obergon, Mexico, for winter increases and then brought back to North Dakota so that actually two crops can be raised in a 12-month period. He declared that the genes in the parent strains are in those banks for the varieties that will be produced for the next ten years.

### Thru the Mill

At Grand Forks manager of the North Dakota Mill & Elevator showed us through the brand new K mill and entertained the group at dinner that evening. Dinner speaker Gene Griffin, director, Great Plains Transportation Institute, stated that landmark legislation in transportation had taken place in the last eight years and noted that transportation adds no utility to a product other than taking it from point of produc-



Upper left: Vance Goodfellow tells group what to look for in checking durum. Center left: Closeup of a combine. Lower left: Vincent and Fred DeDomenico at Weckerly Farm. Upper right: a pair of combines come over the hill to pick up swath. Center right: Closeup of a tractor. Lower right: GTA Cooperative Elevator at Fessenden.

tion to point of consumption. Durum is inelastic and with a crop to be shipped, regardless of freight rates, any savings goes to profits. With the rapid changes in transportation and energy costs, this area has to be managed as carefully as any other management consideration.

### At N.D.S.U.

At North Dakota State University at Fargo Dr. Jack Carter, Chairman

of the Agronomy Department, described research, teaching, and extension service and how this is coordinated with the efforts of the Cereal Chemistry and Technology department who test the grains in development for commercial acceptability. Objectives of the breeding program so far as the farmer is concerned is for yield, height, maturity, disease resistance, and grade. The miller wants

adequate kernel size, good semolina color, and no specks. The macaroni manufacturer is interested in spaghetti color, protein content, and water absorption. The consumer is concerned with color, firmness, and cooking loss. The exporter wants good test weight, protein contents, gluten quality and color. Funding for the research at North Dakota State University comes

(Continued on page 10)



## Durum Harvest Tour

(Continued from page 9)

from state appropriations in the amount of 60 percent, 20 percent from the federal government, and 20 percent from gifts and grants.

### Minneapolis Grain Exchange

At the Minneapolis Grain Exchange we saw how trading is done. A sample pan represents a car of wheat and has been graded by a federal inspector to establish premiums and/or dockage. The complaint of the grain buyers in that elevators are mixing in junk from last year's poor crop and diluting the quality of new crop materials which results in lower prices and dissatisfaction by all parties concerned. One buyer said some of the stuff he gets isn't fit for feed. So, while the farmer wants better prices, the grain buyer wants better quality and complains that the U.S. grading systems leaves a good bit to be desired.

### Challenging Business

Obviously every step along the way from field to the table involves businessmen with their own particular set of problems. The challenge in this day and age is to operate at a profit while keeping the cash flow coming to meet high interest rate payments. The crop that gives the farmer the best return will be the one he plants.

The crop that gives the elevator operator the best return will be the one he merchandizes, and the miller and macaroni manufacturer are concerned that if they do not get sufficient raw material supplies at a reasonable price and factory quality, the consumer will eat potatoes or beans or rice in preference to pasta. So there is the challenge: to keep the grower encouraged in producing quality raw materials and developing domestic markets as well as export markets to satisfy the customers at the end of the line.

### Wheat Buyer

Kenneth "Bud" Boe has been to South Dakota 168 times in the past 34 years to see the one thing most people hardly notice as they drive by—wheat. From his car window he can tell which wheat was planted in winter, which in spring, which is best suited for pastry, and which for pasta. He can guess how many bushels



Minneapolis Grain Exchange

a farmer will harvest, and he can tell at a glance which fields were hurt by drought or hail or too much rain.

Manager of Pillsbury's feed-mill operations, Boe, as one of the industry's best known crop scouts, doesn't just look at wheat. He touches it, smells it, collects samples of it, and ultimately buys it from farmers and grain elevators.

While other crop scouts monitor prices of grain futures trading and study government planting reports and harvest forecasts in their offices, Boe goes out into the fields three times during the March-June winter-wheat growing season. He goes back twice more, once during harvest and once just to be neighborly.

### Goodfellow Approves Tactics

Vance Goodfellow, president of the Crop Quality Council, agrees with his tactics. "As old-fashioned as it may sound, there's no other way to know wheat as Bud Boe does but to go out and look at the fields yourself." The Crop Quality Council and the Wheat Quality Council often organize group crop-scouting trips.

### First Hand Information

Because of his first-hand information Boe was able to tell Pillsbury in 1947 that the wheat crop was ankle-deep in grasshoppers. Again in 1963 he told them that the year's hardy looking wheat was dying from a stalk disease called rust. The warnings al-

low producers to adjust their flour blends and avoid running short.

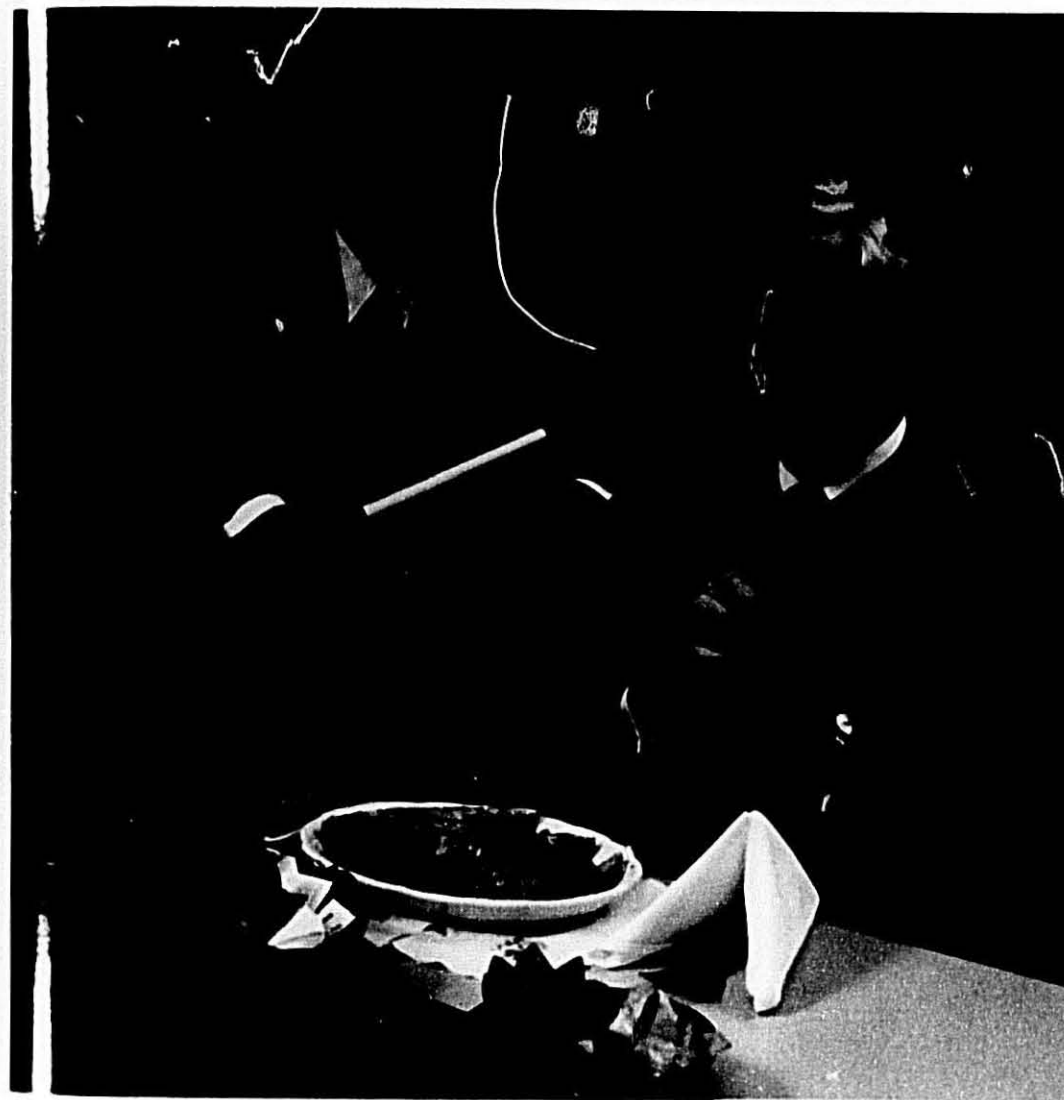
Boe amuses himself during his endless days in the car by chain-smoking and occasionally seeing how far he can drive with the fuel gauge empty. Every 50 miles or so he stops to examine a field. All wheat fields, he says, "look beautiful from the edges." So Boe wades in 100 feet or so; there he uproots a few fistfuls of stalks and examines them, then tears off another handful or two and strips the kernels loose. He peels away the husk and bites into the kernel to test its hardness.

Occasionally a farmer objects. One did on this trip — not because Boe was trampling wheat, but because he left his car in the middle of the tinder-dry field with the engine running.

It takes years to develop the experience to "read" a wheat crop but Boe makes light of the esoteric learning with a joke. "I test the yield of a crop by throwing my cowboy hat over an acre of wheat," he says. "If there's enough bend in those stalks to send my hat back, I know I've got 50 bushels of wheat in that acre."

### Durum Market

Semolina ranged from \$12.00 to \$13.75, Minneapolis, in July; granular \$11.70 to \$13.10; fancy patent durum flour \$11.60 to \$15.25.



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**NORTH DAKOTA WHEAT DATA**  
**ANNUAL WHEAT PRODUCTION, NORTH DAKOTA SELECTED CROP YEARS**  
 As of July, 1981

CROP YEAR	HRS	DURUM (000 Bushels)	WINTER WHEAT	TOTAL WHEAT
1972-73	149,147	65,593	2,178	216,818
1973-74	169,675	69,575	2,336	241,586
1974-75	136,530	70,800	3,422	210,752
1975-76	156,315	104,940	3,137	264,392
1976-77	193,550	90,500	3,760	287,830
1977-78	167,000	60,515	2,392	229,907
1978-79	180,090	102,060	3,915	286,065
1979-80	165,095	84,500	2,640	252,235
1980-81	105,450	73,150	1,050	179,650

**NORTH DAKOTA WHEAT PRODUCTION, 5-YEAR AVERAGE, 1976-77 to 1980-81**

CLASS OF WHEAT	ACRES PLANTED	ACRES HARVESTED	YIELD/HARVESTED ACRE	PRODUCTION
HRS	7,036,000	6,544,000	24.7	172,871,000 bu.
DURUM	3,468,000	3,286,000	25.2	89,803,000 bu.
WINTER WHEAT	153,000	113,000	23.4	3,149,000 bu.
ALL WHEAT	10,657,000	9,943,000	24.9	265,823,000 bu.

**PROSPECTIVE PLANTING, WITH COMPARISONS, NORTH DAKOTA**

CROP	1979 (acres)	1980 (acres)	JUNE 1 ACREAGE ESTIMATES 1981 (acres)	1980 TO 1981 % CHANGE
DURUM	3,330,000	4,400,000	4,600,000	+ 5%
SPRING WHEAT	6,400,000	7,290,000	7,400,000	+ 3%
OATS	1,050,000	1,050,000	1,200,000	+14%
BARLEY	1,700,000	1,850,000	2,330,000	+25%
FLAX	530,000	380,000	400,000	+ 5%

**STOCKS OF WHEAT IN NORTH DAKOTA 1978-1981, IN BUSHEL**

DATE	ON FARM (000 Bu.)	OFF FARM (000 Bu.)	TOTAL (000 Bu.)
June 1, 1978	156,337	32,804	189,141
October 1, 1978	314,672	64,186	379,858
January 1, 1979	271,762	47,076	318,838
April 1, 1979	243,155	43,565	286,720
June 1, 1979	180,221	32,042	212,263
October 1, 1979	317,816	62,839	380,655
January 1, 1980	242,146	44,700	286,846
April 1, 1980	194,221	41,600	235,821
June 1, 1980	138,729	35,500	174,229
October 1, 1980	220,567	59,000	279,567
January 1, 1981	179,650	55,000	234,650
April 1, 1981	154,499	43,000	197,499
June 1, 1981	116,773	38,400	155,173

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### Bumper Crop in Canada

Canada will likely have a bumper grain crop this year to compete in world markets with abundant harvest from the U.S. and other major grain-growing nations.

Based on growing conditions so far this season, some analysts put the Canadian crop at more than 20% above last year's drought-depressed harvest of wheat and other grains.

The Canadian crop could be "extremely large," says Jaye Fredrickson, a Winnipeg-based analyst for Cargill Inc.'s Canadian subsidiary. Planted acreage has increased and yields look like they will be "very good," he says.

The Cargill analyst says the government's price for this year indicates it expects market prices for grains to decline further. She believes farmers will take the announcement as a further signal to deliver as much grain as possible this month to the Canadian Wheat Board, the government marketing agency, to take advantage of existing prices.

Canada's wheat, oat and barley stocks currently are near their lowest levels in 10 years, notes Maurice Senkiw, an analyst at United Grain Growers, a Winnipeg-based farmers cooperative.

### Durum Up 38%

United Grain Growers estimates the western durum wheat crop at 97.4 million bushels, up 38% from 70.4 million bushels last year. Pioneer Grain Co., also of Winnipeg, forecast a western durum harvest of 195 million bushels.

The acreage seeded to wheat including durum is the biggest in 14 years, totaling an estimated 30.1 million acres, up 10% from last year.

Canadian grain exports from last Aug. 1 to July 1 totaled 19,512,900 metric tons, little changed from 19,597,100 tons a year earlier. The current year's shipments have been slowed by a work-to-rule of grain handlers at the Lake Superior grain terminal of Thunder Bay. The Wheat Board estimates the action has reduced its unloading of grain at Thunder Bay to about 5,400 rail cars a week in recent weeks from the usual 6,400.

### Canadian Grain Handlers

U.S. Wheat Newsletter reports Canadian grain elevator workers casting

a 95 percent affirmative vote to strike against export elevator operators at Thunder Bay, Ontario. The grain handlers union, which mans all six elevators, has been without a contract since January 31, 1981. Approximately 60 percent of Canada's annual grain exports move through these Great Lakes facilities, and Canadian Wheat Board officials term a strike as a "disaster" to the new season's export picture given that a record crop is nearing harvest and that transportation dislocations of previous years — particularly with rail cars — have essentially been alleviated. Government action is now the key factor to a strike actually taking place. A conciliation report of the unsuccessful negotiations must be made publicly by Ottawa seven days before the grain handlers may actually stop work. That report, as of August 21, has not yet been released, meaning that the earliest strike date would be August 28. During that seven-day countdown period, the labor-management parties are to review their positions and theoretically reach a settlement. If no agreement is reached, there is still the option of government intervention; however, a recent six-week postal workers strike concluded without government interference. Cost-of-living adjustments and opposition to a seven-day workweek are among the key contracts points of contention. Canada has more than two-thirds of this year's grain exports already committed for delivery, and with all port facilities essentially fully booked, a Thunder Bay strike would leave few, if any, shipping options towards meeting these grain sales.

### In GTA Grain Marketing

Garry A. Pistoria and Donald O. Peterson have been named assistant vice presidents of the Grain Terminal Association's grain marketing division. Mr. Pistoria, grain marketing division administrator, continues in his present position, as does Mr. Peterson, director of G.T.A.'s Portland, Ore., operations. Mr. Pistoria has been with the St. Paul, Minn.-based Upper Midwest and Pacific Northwest cooperative since 1982, and Mr. Peterson has been with G.T.A. since 1981.

### Multifoods Sales Dollar Goes to Work

During fiscal year 1981, Multifoods generated \$1.09 billion dollars in sales. Out of this \$1.09 billion, Multifoods paid the cost of doing business:

#### Raw Materials and Packaging Material 70.9¢

The largest part of Multifoods' sales dollar, over two-thirds, was used to purchase raw materials and packaging in order to manufacture or process our products.

#### Salaries, Wages and Benefits 14.4¢

Out of Multifoods' sales dollar, employees received 14.4¢ in the form of salary and benefits.

#### Other Expenses 8.9¢

Nearly nine cents of every sale dollar is used for miscellaneous expenses such as advertising, energy costs, taxes on property, bad debts from debtors, depreciation, maintenance and repairs on Multifoods facilities and equipment.

#### Profit 2.6¢

Profits are what a company earns after all expenses have been paid, and are vital to the Company's future. About 1.6¢ of each sales dollar (nearly two-thirds of our profits) are put back into the Company for future expansion. With expanded facilities and new equipment, the Company is better able to meet future production needs.

Out of profits also come dividends for shareholders. Out of every sales dollar, one cent was paid to shareholders for their investment in Multifoods stock.

#### Interest 1.6¢

Businesses and individuals alike have been paying increasingly higher interest rates on money borrowed. In 1981, Multifoods paid \$17.1 million in interest. Just as individuals borrow money for major purchases such as a home or car, Multifoods finances expansion with long-term loans.

For working capital needs such as purchase of inventories, Multifoods uses short-term loans.

#### Income Taxes 1.6¢

Last year, Multifoods provided \$17.9 million for income taxes, the equivalent of 1.6¢ on every sales dollar.

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## THE INS OF MANAGEMENT BY AN OUTSIDER

Highlights of an Article by Barry Crickmer in *Nation's Business*



William G. Phillips

William G. Phillips gave up the security of a 21-year career with Glidden Company and the Glidden-Durkee division of SCM Corporation in Cleveland to take over the reins of International Milling Company in Minneapolis.

Today, if you ask Bill Phillips to name his proudest accomplishment, he does not mention changing the corporate name to International Multifoods, making 40 acquisitions in 10 years, boosting net sales from \$383 million in 1968 to \$1 billion in 1980 or taking return on shareholders' equity from below 6 percent into the middle teens. "I am extremely proud," he says, "of the fact that the two key people who brought me here — Atherton Bean and his brother John — are today very close friends of mine 13 years later."

### How to Stay Friends

What are the secrets of taking over a family company while remaining friends with the family?

"Don't try to build your reputation by destroying someone else's," Phillips advises. "In other words, stay 100 percent away from criticizing the past. The times were different, the reasons for decisions were different." He also points out that good leadership technique and good planning — important in any company — become even more important when an out-

sider moves in.

Experience in the Army, Phillips says, taught him that you've got to find a way to get the best out of the people you've got, rather than assuming you can change everybody. "It means maybe working a little harder on your part to try to understand people, try to find out what make them tick, what motivates them," he says.

People who have worked with Phillips say he is both a numbers man and a Mr. Outside type — an unusual combination. Phillips says the "number man" tag is probably inevitable, given his training as an accountant and his interest in planning. It dates from his early days at Glidden where the senior vice president hung it on him.

Today he is regarded as an authority on planning, which he values as a way to gain commitment to corporate goals and for its obvious benefits in measurement and control.

### Phillips' Strategy

Phillips' strategy has been to move the company into higher-margin, consumer products and fast foods by finding "niches" in the market that do not entail head-to-head competition with the established giants in the consumer end of the food industry. "If you're starting out relatively small, as we were in consumer products, you don't want to take a first step that's going to require an \$8 million advertising budget for three years to get yourself on the shelf," he explains. "You're not going to have the money, and you'll never last."

This diversification philosophy has led the company into specialty meats and cheeses for the consumer and four restaurant chains. The corporate name was changed to International Multifoods in 1970 to reflect the broader product mix.

The successes? Kaukauna Klub, a producer of snack-style cheeses has grown from the \$7 million range to more than \$50 million a year.

### Success of Mr. Donut

Mister Donut chain comprises more than 800 units, and 300 of them

are in Japan, where numerically it is the largest fast food chain. Multifoods also has various businesses and franchises in Canada, Venezuela, Mexico, Brazil and Thailand.

The company has another reason to look at franchising from the viewpoint of the franchisee — Multifoods operates 38 Hickory Farm stores under franchise. According to Phillips, his company is happy with a franchise relationship either way.

In addition to his responsibilities at Multifoods, Phillips is an officer member or director of 26 corporate and other organizations. He uses these memberships to learn and to contribute to causes he considers important.

Some examples: The economy is important to Multifoods, so Phillips is a director of the U.S. Chamber of Commerce and of the Federal Reserve Bank of Minneapolis. Being a director of Soo Line Railroad keeps him abreast of grain transportation trends. He learns about energy at Northern States Power Company and about insurance at North American Life and Casualty Company.

His interest in economic education shows in his service as a director of the Minnesota State Council on Economic Education, as an overseer of the College of Business Administration at the University of Minnesota, and as a member of the Development Committee of the Institute of International Education. He often speaks to church and college groups. On the campus, he says, there has been an amazing change in the mood of students in recent years. "You don't get any smart-aleck questions. They are interested in business, particularly in the subject of ethics."

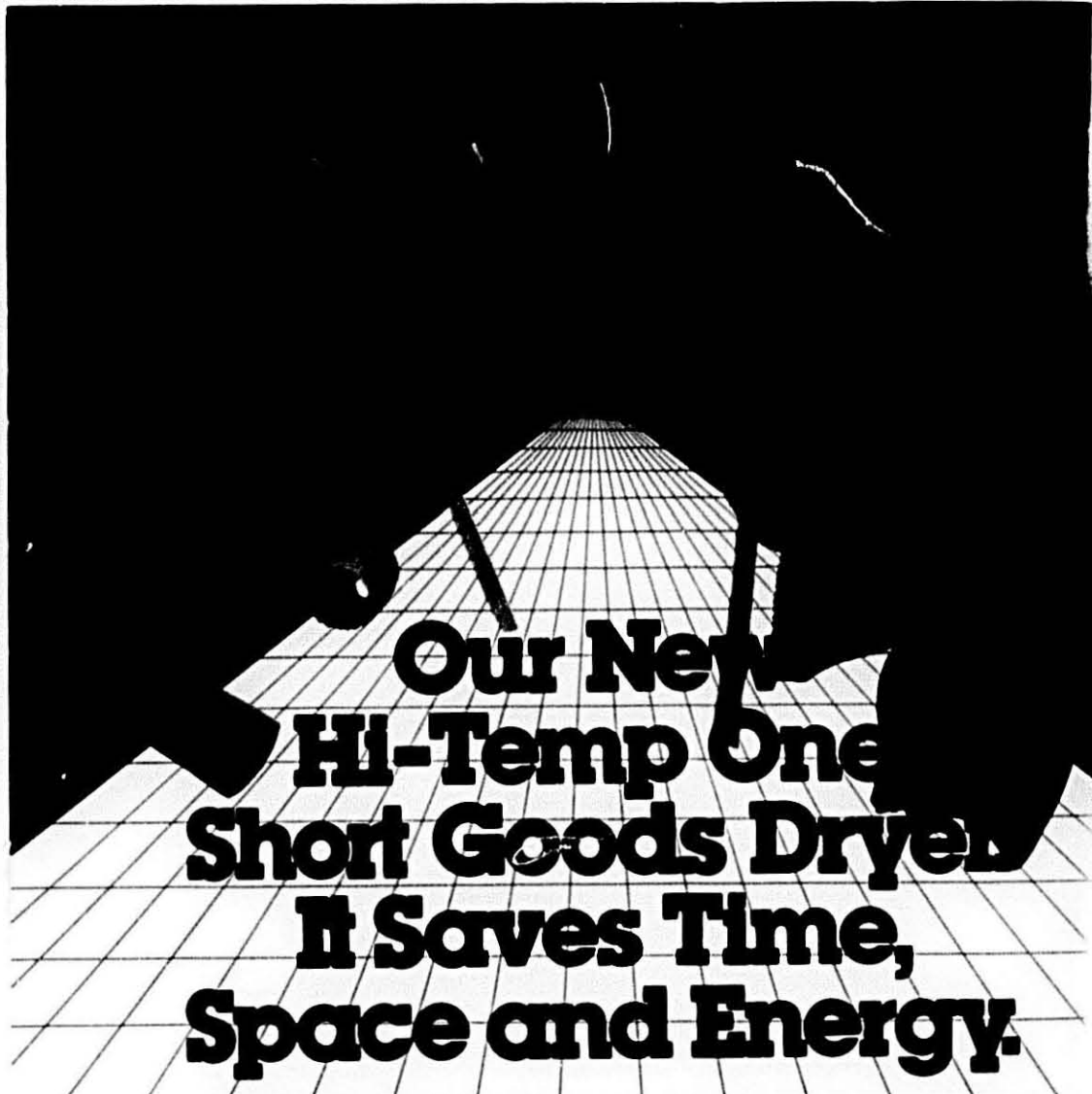
### Tax Cut

"In five of the six recessions since World War II, a tax cut was needed to support the recovery, and it appears this will be necessary again." — Dr. Richard W. Rahn, vice president and chief economist, U.S. Chamber of Commerce.

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## PASTA USES ITS NOODLE FOR NUTRITION

Reprinted from "Chain Store Age/Supermarkets", July, 1981

In 1980, when pasta tonnage went flat after years of ascent, the seers, caught with their predictions down, rushed forth with a spate of explanations.

And all of them were valid. The big unpredictable — the weather — triggered a price increase in a pocketbook-wrenching environment. A drought in summer, followed by six weeks of rain during the harvest season, caused a shortage of quality durum wheat. When the price rose to \$7.5 a bushel, retail prices jumped 10¢ a pound. As a result, shelf stackers went from 63¢ a pound to a high of \$1¢, giving pasta a dubious distinction of outstripping all other grocery products in price increases.

High interest rates, the "bete noire" of the economy, contributed to pasta's plight as well. The reason: Because of the high cost of money, retailers reduced inventories and were less prone to load up on deals. With less inventory, the stores didn't push as hard to move product. So unit sales suffered.

Escalating pasta prices have exacerbated another pressure point,

widening the price gap between pasta and other carbohydrates (rice, beans, potatoes).

Yet, from such adversity may come strength, and potatoes may provide the catalyst.

A Midwest pasta executive says, "The potato industry was hurt by the high-calorie stigma several years ago, but through an aggressive advertising program by the Potato Board, it has made a dramatic turnaround. The board has been able to get consumers to believe that potatoes are lower in calories than they think."

An East Coast marketing exec adds, "Although the potato industry is fragmented, they have been able to unite behind a cohesive program. Not so with pasta. The transition from family ownership to large corporations has resulted in a technical change of ownership only. The interplay of egos among the families — everyone wants to be chief — was hurt."

But that is changing. Through increased efforts by the National Macaroni Institute, pasta makers are megaphoning the product's nutritional value. Prince Macaroni's Superoni,

originally developed for the school lunch program, is a soy-enriched product with 41 percent more protein than inexpensive beef cuts. After debuting in New York State, Superoni will enter the New England market this fall. The product is unit-priced the same as regular 16 oz. pasta but comes in a 12-oz. box.

Ronzoni Macaroni is trumpeting pasta as the "Food of the Eighties" for athletes. A one-minute radio commercial points out that pasta is a complex carbohydrate, which converts to energy quickly.

Trim new look: Pasta's "fattening" image is also being gunned down. Prince's answer is Light Spaghetti. It has a different wheat formulation and requires extended cooking time — but has half the calories.

Ronzoni is taking a different tack — that the sauce is the culprit. The company has introduced Lite 'n' Natural on the East Coast. A spokesman for Ronzoni says it's now possible to dish up a complete meal with fewer than 300 calories: 210 calories for 2 oz. of pasta (which cooks to 5-6 oz.), and 4 oz. of Light 'n' Natural with

(Continued on page 22)

### PASTA PRODUCTS: 1980 Performance — \$1 Million Supermarkets

CATEGORY	Sales % of Dept.	SALES		PROFIT		Gross Profit \$ (Mill)	ASSMT. MARGIN	
		1980 \$ Vol. (Millions)	1979 \$ Vol.	% of Diff.	% of Dept Gross		Items/ Brands/ Size at Whse.	Avg. Gross Margin (% of Retail)
MACARONI DINNERS	17.99	\$173.75	\$148.83	16.74	12.34	\$ 28.12	7	16.2
W/ Cheese	10.28	99.29	117.50	- 15.49	8.32	18.96	6	19.1
All other Mac. Dinners	7.71	74.46	31.33	137.66	4.02	9.16	1	12.3
NOODLE DINNERS	6.24	60.28	56.39	6.90	6.52	14.87	18	24.7
W/ Meat	2.02	19.50	7.83	149.04	2.25	5.13	7	26.3
All other Noodle Dinners	4.22	40.78	48.56	- 16.01	4.27	9.75	11	23.9
SPAGHETTI DINNERS	2.57	24.82	26.64	- 6.82	2.47	5.62	3	22.6
W/ Meat	1.47	14.18	15.67	- 9.50	1.31	2.98	1	21.0
All other Spaghetti Dinn.	1.10	10.64	10.97	- 3.00	1.16	2.64	2	24.8
NOODLE MIXES	1.10	10.64	6.27	69.70	1.31	2.98	4	28.0
MACARONI	18.54	179.07	180.16	- 0.60	19.98	15.56	29	25.4
All other Macaroni	8.81	85.10	73.63	15.58	9.18	20.94	10	24.6
NOODLES	18.53	179.07	120.63	48.45	18.79	42.84	26	23.9
All other Noodles	7.52	72.69	28.20	157.77	6.47	28.08	16	26.4
SPAGHETTI	23.11	223.39	180.16	24.00	25.42	58.04	22	26.0
Regular	16.69	161.34	126.90	27.14	18.29	41.79	15	25.9
All other Spaghetti	6.42	62.05	53.26	16.50	7.13	16.26	7	26.2
PIZZA MIX	2.75	26.39	28.20	- 5.70	3.20	1.29	5	27.4
ONE POT DINNERS w/Fresh Meat/Fish Added	5.87	56.74	42.30	34.14	6.34	14.43	11	25.4
With Noodles or Macaroni	2.20	21.28	18.80	13.19	2.43	5.53	4	26.0
With Rice	0.37	3.55	1.13	13.42	0.45	1.02	1	28.6
All other	3.30	31.91	20.37	36.65	3.46	7.88	6	24.7
NOODLES w/SAUCE MIXES	2.20	21.28	12.53	69.83	2.59	5.92	6	27.8
ALL OTHER PASTA DINNERS	1.10	10.64	9.40	13.19	1.04	2.37	1	22.3
TOTAL	100.00	\$966.27	\$811.51	19.07	100.00	\$228.04	132	23.6

% of total store volume — 0.54%.

OCTOBER, 1981



## Pasta Performance

(Continued from page 21)

45 calories (marinara) or 50 calories (meat).

In other developments, deals on pasta have accelerated, from two to three times a year to weekly.

Private label and generics are on the rise — especially macaroni/cheese dinners. Private label on mac/cheese accounts for 20 percent — plus in tonnage, generics 10 percent.

Add-to dinners (meat and tuna) are down because, says an exec, "There is a psychological barrier when prices break \$1."

The hope for 1981 is that the weather cooperates. Plantings for 1981 are 15-20 percent higher than last year, and raw materials should decline 2-3¢ a pound. Even with increased costs of transportation, packaging, etc., the net "plus" could be lower prices than last year.

## Tight Economy Adds Zest to Sauces

The new American pastimes — stretching inflation-thinned dollars and dieting away excess weight — provided the impetus for a solid, though not spectacular, 1980 for sauces and dressings.

Spaghetti sauce, one of the largest subcategories, is a prime example. Though sales slowed in 1980, it remains a basically strong area, and consumers perceive pasta as a healthful product as well as an economical one.

Sauce manufacturers are extremely optimistic about the next few years, and they would seem to have good reason. President Reagan's enthusiasm for supply side economics notwithstanding, inflation has become an accepted, if unpleasant part of con-

temporary American life. One direct effect of this malady is that many consumers have sought alternatives to costly meat-based diets and have turned to staples like pasta. Naturally, that's good news for spaghetti sauce manufacturers. The same logic has forced consumers to use the wide variety of other sauces and dressings to stretch meals and embellish the flavor of cheaper cuts of beef.

Diet craze: In addition, the national fervor for staying slim shows no signs of abating. This has particularly bright implications for dressings which are linked directly to the salad craze. Pasta has cut itself a niche in this "think thin" market as knowledgeable weight watchers increasingly view it as a nutritional, less fattening alternative to richer meals.

New York-based Ronzoni, for example, joined the trend last spring with the introduction of its Light and Natural line of sauces, which completely replaced its former products.

"The results so far have been very positive," reports a Ronzoni spokesman, who adds cautiously, "Those were first-time users. What we're looking for now are repeat users to keep the product moving off the shelves."

With the sauce subcategory racking up sales of \$370 million, up 8.5 percent, manufacturers say that more and more companies are finagling for a big helping of this lucrative business.

"It's been an extremely active category over the last year. There's been the introduction of many new brands and inroads in the market by generics and private labels. And we've seen lots of trade deals, couponing and promotions," says Charles Perrin, vice president of marketing for Ragu.

For Ragu, at least, the leveling off of total spaghetti sauce sales is causing them to adjust their marketing strategy. "We're looking to convert the homemade user into becoming more of a commercial user," explains Perrin.

Behind the more impressive growth of other sauces and seasonings is the desire by cooks to mask the flavor of less expensive types of meats. Meat sauce, for example, enjoyed a sales growth of nearly 25 percent. Ethnic sauces, like pizza and Mexican, posted even more impressive gains, though they remain relatively small segments of the category.

The biggest victors last year, though, were the more economical dry mixes and seasonings. The most obvious winner was dry spaghetti sauce, which leaped over 7 in dollar sales.

Explains Dan Murray of French's, "The reason so many of these products did so well is directly related to the increase of the use of cheap meat dishes. When you're making gravy or spaghetti sauce from a mix, it's convenient, and it could be as much as 10¢ cheaper."

## Pasta's Progress

Progressive Grocer's July issue is the 1981 Product Guide. Dry pasta products and packaged dinners are not tabulated this year with demographic data for heavy users.

Packaged macaroni, spaghetti, and egg noodle products have advanced from 39 to 29 position on the list of "201 Most Used Supermarket Grocery Products." This is one of the dramatic changes that illustrates pasta's growing popularity. Rice, for example is 40th on the list, frozen potato

## Pasta's Progress

(Continued from page 22)

products are 97, instant packaged potatoes 131, and flavored, seasoned rice mixes are 146. Other upward movers in related pasta fields are spaghetti sauce in jars or cans from 97 to 93, and dry soup mix from 95 to 87. Canned soup stayed the same at 20, and dinner mixes where one adds meat and fish dropped two places from 150 to 152. No comparison was available for canned macaroni and spaghetti which ranked 128.

In the section "Buyers Rate the Products", pasta stands in 25th position for responsiveness to promotional activity and 38th in strength of consumer brand loyalty.

## Weight-Watcher Salads

WeightWatchers magazine for August on the front cover lists: "Our Gold Pasta Salads Low-cost; Slimming; Elegant." In a double page spread in full color cold pasta classics pictured include pasta verde, Norwegian salad, and pesto salad. In the June issue of UAL's Mainliner magazine is a story on "The Professor of Performance — Ball State University's David Costill has become the nation's foremost expert on what makes us run." The item says: Although not the first exercise physiologist to discover that muscle fibers come in two categories — Costill's extensive fiber-type testing serves to publicize the theory that having a high percentage of fast twitch fibers promotes speed; slow-twitch, endurance. His extensive research into diet also helped identify pasta as the ideal prerace food for marathoners.

## Overweight Canadians

According to the Canadian Restaurant and Foodservice Association, the Toronto Star stated that half the Canadian population is overweight and under-active resulting in a billion dollar industry catering to the weight conscious. Interest in healthy foods is no longer a fad. The younger generation is rebelling against old diet habits and becoming more discriminating in their tastes. In short, light and nutritional eating is in Canada to stay. Those who make adjustments in their marketing strategies to reflect these changing consumer attitudes will benefit greatly. N.P.A. has tudes will benefit greatly.

## Macaroni Imports Expand

Imports of macaroni products reached 774,000 cwts in 1979, a nearly sixfold increase in the past 23 years. Darla Tufto, nutrition specialist, North Dakota State Wheat Commission, said in a column written for Progress Report, a publication of the Commission. In 1956 the U.S. imported 137,000 cwts of pasta products, she said. She also said estimates suggest that macaroni imports in 1981 could surpass 1 million cwts.

Over the same period, Miss Tufto said, macaroni exports have also increased, but at a slower rate, and the outgo of pasta products on an annual basis lags well behind imports. In 1979 macaroni exports were 83,000 cwts, an amount equivalent to 11% of the imports. In 1956 exports of pasta products were 17,000 cwts, or 12% as much as was imported, she added.

Miss Tufto pointed out that before 1960 macaroni exports occasionally exceeded imports on an annual basis but in recent years outgo has held steady while macaroni imports have soared.

Imports, mainly from Italy, used to command higher prices than domestic products, she noted, but currently the price of imported macaroni is less than for the domestic product and the quality is better because of the quality problems with the 1980 durum crop in this country. She also pointed out that the government of Italy subsidizes pasta exports.

Domestic manufacturers most affected by macaroni imports, she said, were those with major markets along the Atlantic seaboard, particularly New York City, and the northeast part of the country as far west as Chicago. Although the major share of pasta imports come from Italy, competition from Canadian manufacturers is increasing. Lawyers for the National Pasta Association were studying the situation to see what can be done to alleviate the problem, she said.

## Mac-Kabob

The popular shish-kabob dish took on a new twist this September when Kraft Macaroni & Cheese Dinner and SPAM® Luncheon Meat teamed up for the "Mac-Kabob!" A four-color, full-page recipe ad will promote it in

September issues of Family Circle, Woman's Day, Redbook, and Ladies' Home Journal, plus October Good Housekeeping, Parents', and Better Homes and Gardens.

Thirty-two million Blue Box packages will carry the "Mac-Kabob!" recipe as well as flag the promotion on the front panel.

In-store point-of-sale materials are available that highlight the recipe on pole toppers, along with recipe pads with four additional menu ideas using Kraft Macaroni and Cheese Dinner and SPAM.

## Creamettes and Ham

"Macaroni gets a helping ham," says a colorful page ad in September Family Circle. The macaroni is Creamettes, and the "helping ham" is real Hormel Chunk Ham. Together, they make a hot and hearty platter—"Ham MacDandy"—for cool fall eating. The recipe is in the ad. The ad agency is BBDO in Minneapolis.

## Rice-A-Roni and Avocados

"The livin' is easy with California Avocados and Rice-A-Roni," headlines this salad ad in September 22 Family Circle. The full-page, full-color joint ad pictures a summer salad of Chicken Rice-A-Roni nestled on a luscious avocado half shell, and features a recipe for the "Easy Livin' Salad." The ad also ran in Good Housekeeping and Ladies' Home Journal during September.

## Ten Record Years For Pillsbury

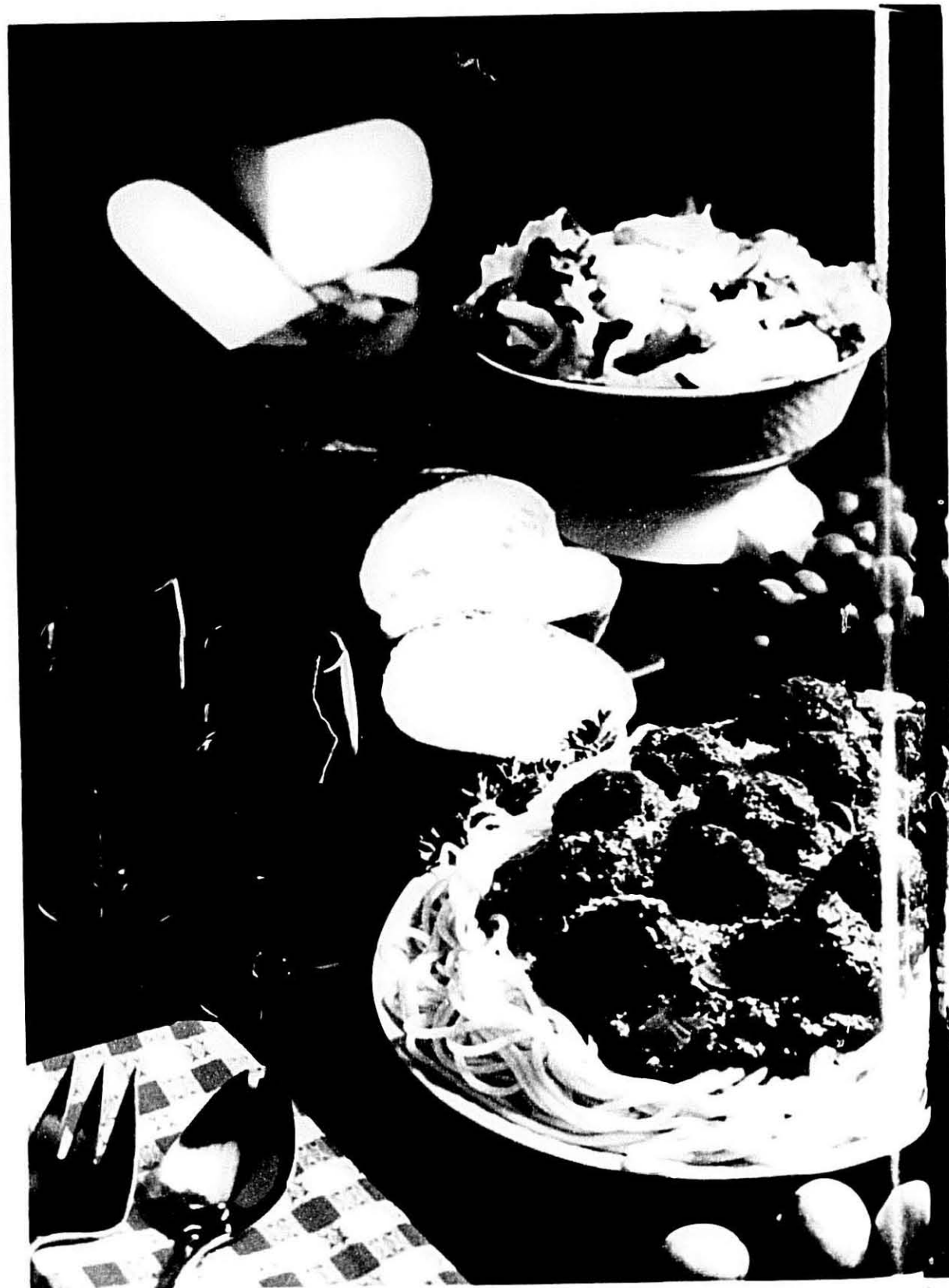
Ten consecutive years of record sales and earnings are highlighted in the 1981 annual report of The Pillsbury Company. Emphasis is placed on the view that the performance in the year ended May 31, 1981 was achieved "despite a difficult business and economic environment." The Agri-Products sector, which includes the company's flour milling and grain merchandising, experienced a "disappointing" 34% reduction in operating earnings, offset by a 45% rise in Consumer Foods and a 9% increase in Restaurants.

(Continued on page 26)

## SAUCES: 1980 Performance — \$1 Million Supermarkets

CATEGORY	% of Dept. Sales	1980		% of Dist.	PROFIT % of Dept. Gross Profit	Gross Profit \$ (MILL)	ASSMT. Items/ Brands/ Size of Whse.	MARGIN Av. Gross Margin (% of Retail)
		\$ Vol. (Millions)	\$ Vol.					
DRY MIXES & SEASONINGS	9.36	\$182.61	\$139.43	30.97	18.48	\$56.47	54	30.9
Gravy Mix	3.33	49.64	45.43	9.27	5.20	15.89	15	32.0
Sloppy Joe Mix/Seasoning	0.71	10.64	9.40	13.19	1.08	3.29	3	30.9
Chili Mix/Seasoning	1.31	19.50	14.67	24.44	2.01	5.14	5	31.5
Spaghetti Sauce Mix/Seasoning	1.55	23.05	15.67	47.10	2.33	7.15	5	31.0
All other Mixes/Season.	5.35	79.78	53.26	49.79	7.86	24.01	26	30.1
MUSTARD	6.29	92.19	76.76	20.10	6.91	21.11	15	22.9
CATSUP	22.78	339.35	349.23	2.83	21.01	64.44	16	18.9
SPAGHETTI SAUCE:	24.98	370.55	341.53	8.50	25.02	76.48	34	20.6
Meatless	14.86	219.85	193.83	12.27	14.74	45.07	21	20.5
With Meat	8.21	122.33	120.63	1.41	7.96	24.34	11	19.9
With Clams	1.91	28.37	25.07	13.16	2.30	7.06	2	24.9
MEAT SAUCE:	12.62	187.93	150.39	24.96	14.94	47.67	27	24.3

THE MACARONI JOURNAL



# Peavey

Sales Offices

1000 ...  
1000 ...  
1000 ...



## Pillsbury Progress

(Continued from page 23)

William H. Spoor, chairman and chief executive officer, and Winston R. Wallin, president and chief operating officer, hail the accomplishments in fiscal 1981 as "made possible by the dedication and skill of Pillsbury people around the world, coupled with the high quality products and services which make up our balanced portfolio of businesses."

They said, "Our past 10 years' performance gives us confidence that our concept of balanced diversification is a sound strategy even in difficult economic times. We believe in balance among the primary segments of the food industry in which we participate, as well as equal emphasis on growth through internal development and by acquisition."

Mr. Spoor and Mr. Wallin reveal that four major "growth vehicles" have been identified "and have primary claim on our resources." To emphasize this, they note that about 70% of the \$250 million of capital spending set for the new 1982 fiscal year "will be allocated to these growth opportunities," which are:

- Frozen foods in consumer.
- Commodity Marketing Systems in Agri-Products.
- Burger King (both domestic and international).
- Bennigan's in Restaurants. Aim for another record decade.

The chairman and president also look to the future with confidence. They say:

"We view the future prospects of the company with great optimism and look forward to another decade of record performance, mindful of the millions of customers we seek to serve and the 60,000 employees that make every record possible."

### Market share gains in cake mixes

In reference to focused spending for advertising and sales support, the report cites cake mixes, where the company gained two market share points. Volume increases also were attained in response to the introduction of new cake mixes, while frosting volume rose 9% at a time when the total market was up 4%.

The national market for pasta products was flat, resulting in a disappointing year for American Beauty

pasta," the report says. "However, sales in the last six months strengthened."

The report says Dry Grocery products "will continue to be managed for selected growth in high-potential markets."

## Hershey Dividend

The Board of Directors of Hershey Foods Corporation declared a regular quarterly dividend of \$0.475 per share on the common stock, an increase of \$0.075 per share, or 18.75% on a quarterly basis. The dividend was payable on September 15, 1981, to stockholders of record August 24, 1981. It is the 207th consecutive regular dividend and the seventh consecutive annual increase.

"This increase in dividend reflects the Company's philosophy of providing a reasonable return to its stockholders while maintaining the fundamental financial strength of the Company through a sufficient reinvestment of earnings," said Harold S. Mohler, Chairman of the Board. "It also represents the confidence we have in the future, as well as the health and strength of the Company."

## Successful Marketing Begins with Employees

The formula to successful retailing is more complex than selling quality goods at low prices, according to Zal Venet, president of New York-based Venet Advertising. "The key to marketing success for retail chains is service."

Speaking before several hundred international advertising and marketing executives attending Advertising Age Week 1981 in Chicago on August 11, Mr. Venet stated, "A service business must carve out a marketing position that is based on the employees of the company and the quality of the service they deliver to customers and to the community."

"Furthermore," he added, "the product of a service business is its people. And the communication of that fact in advertising is crucial to motivate customers and employees."

Offering some insight into more effective service advertising, Mr. Venet stressed the importance of how advertisements are viewed by a com-

pany's own employees. "What distinguishes a similar service offered by two retailers is the consumer's perception of the people they come in contact with. The image is not of the company, but the people who make up the company," he explained.

Focusing on three campaigns from the Agency's retail clients, Pathmark Stores, Pueblo Supermarkets of Puerto Rico, and Price Chopper, Mr. Venet dramatized his message. In the case of Price Chopper, a chain with 55 outlets through New York State, Vermont, and Massachusetts, the Agency's campaign improved its internal and external image via advertisements which depicted the company as involving itself — over and beyond the selling of products — within the community.

Two airings of a Price Chopper commercial offering information on starting a free life-saving (VIAL of Life) program resulted in the distribution of 100,000 vials. "It's a stunning example of how a service business like a supermarket chain acts and prospers in its community," Mr. Venet noted. "By adopting a marketing position of people serving the local community, it (Price Chopper) occupies a position above and ahead of its competition."

The most important target of a service/retail business' advertising, he believes, is the company's own employees. "They must believe they embody the company they work for," Mr. Venet concluded, "and their motivation creates a positive shopping experience for the consumer regardless of price."

Venet Advertising, with office in New York City and Union, New Jersey, specializes in food and supermarket advertising. It has an annual billings of \$35 million.

## Peavey Takes Option

Peavey Company has signed an option to buy a parcel of land at Calama, Washington, a port city on the Columbia River near Portland, as the site for a new grain export elevator it plans to construct.

The new facility will be a complete grain export complex, with ship loading capacity of 100,000 bushels per hour and the capability of unloading both barge and rail cars.

## Ronco Installation in Record Time

Two and one-half weeks was all the time it took to install a new DeMaco Tigh Temp I Short Goods Line at Ronco Foods in Memphis, Tennessee. "We started here at 6 a.m. Saturday morning to remove the existing Consolidated line. By 3:00 p.m. the next day, that line was gone. Two and one-half weeks later, we were ready for startup", says Ronco Chief Executive L.M. "Andy" Anderson.

Work progressed in single ten hour shifts. The work crew consisted of two DeMaco supervisors and five Ronco employees. According to Ronco ("Rocky") DeCarlo, the crew's leader, "We had excellent cooperation from all levels at Ronco. They are very good people to work with".

### Trouble Free

Startup of the 170°F dryer, a new product for DeMaco, was relatively trouble free. The dryer is substantially shorter than anything else in the plant. At 77 ft., it is about 35 the length of the line it replaces, at twice the capacity. The line is less than 14 ft. high. The production rate is 2000 lbs./hr. of short goods, with a drying time of 4½ hours for heavy-walled products. The high temperature product is, according to Mr. Anderson, "superior in color, with no difference in cooking quality".

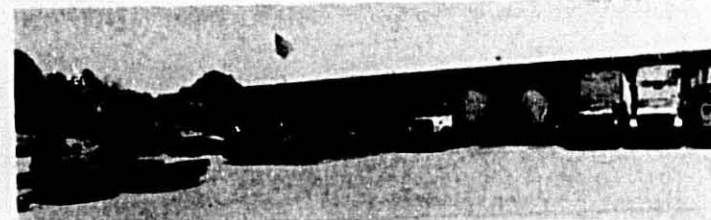
The new installation at Ronco also features a 2000 lbs/hr. short goods press with a single 20" head. This press is equipped with the DeMaco Geometric Feed System, which weighs ingredients, controls their flow into the press, and totalizes their weight. The press also uses hydraulic die removal. According to Mr. Moore, a Pressroom Superintendent, "This is the best machine they have ever made. Elbows ran ten hours and I didn't have to touch anything."

The equipment was supplied by the DeFrancisci Machine Corporation of Brooklyn, New York City. The line is entirely American made.

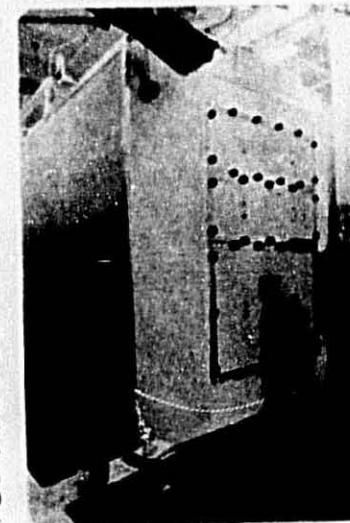
### Pasta Timel

Ralph ran the gamut in product tie-ins in an imaginative pasta promotion. In addition to pasta, the California chain promoted condiments, cheese, sausage, rolls, wine and even handmade Italian storage jars.

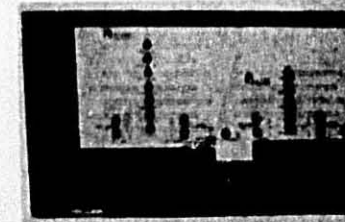
OCTOBER, 1981



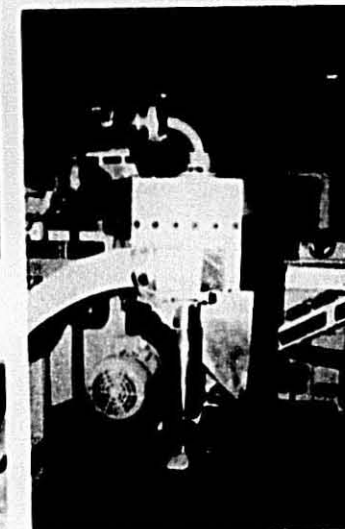
Ronco Foods in Memphis, Tennessee



Dryer



Control Diagram



Short Goods Head



Air Chamber

## Ben Ryden

Ben Ryden of Downers Grove, Ill., died August 13, 1981 at his home. After Army services in World War I he joined the macaroni division of Illinois Cereal Company at Lockport, Ill. He was instrumental in developing the manufacturing and sales of Gold Medal Macaroni Products. He remained with the company until he was sold in 1950.

In 1951, Mr. Ryden joined the John B. Canepa Company (Red Cross Macaroni) as vice president and sales manager. Much of the success of the company during the 1950's and 1960's was due to his leadership.

27

*production*

**25** tons per day

*length*

**55** feet

*High temperature*

**185°** Fahrenheit

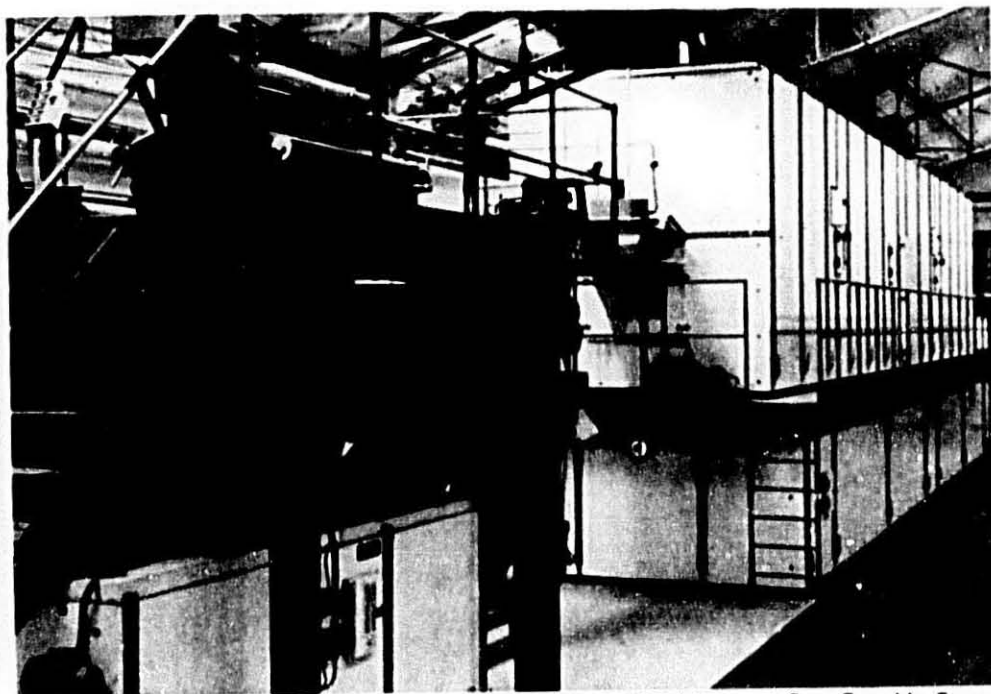
*minimum space  
maximum output!*

# Braibanti

DOTT. ING. M. G. BRAIBANTI & C. S. p. A. 20122 Milano-Largo Toscanini 1

**Braibanti** corporation

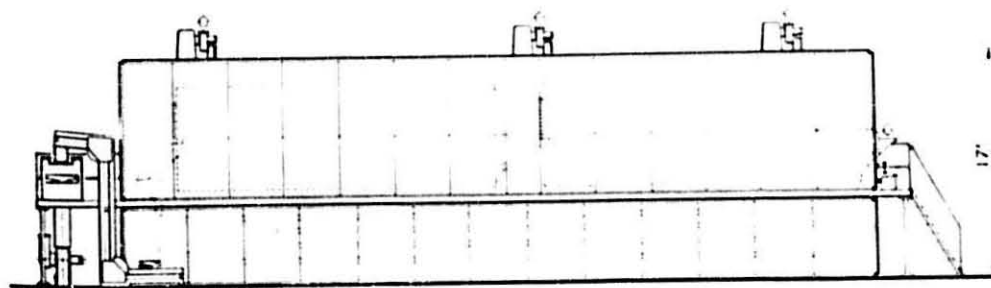
• 60 E. 42nd St. - Suite 2040 • New York, NY 10165 • Phone (212) 682/6407-682/6408 • Telex 12-6797 BRANT



LUSTUCRU Macaroni Co. - Grenoble, France

BRAIBANTI has in operation a new high temperature drying line for a wide variety of short pasta shapes:

- Cobra 1000 press with two 16" diameter die holders
- Shaker type TM/1000 AT
- 2 Metal rotary dryers model Romet 24/8
- 1 Finish dryer type Teless ATR/17/4
- 1 Cooling shaker



55'



# Pasta Perfect:



## People who want to stay trim should realize the nutritional value and low caloric content of pasta products.

Pasta products in this country have inherited a reputation. **This is an undeserved reputation. — totally out of line with the proven facts.**

It's time somebody set the record straight by proving the weight-conscious and waist-conscious value of the real nutritional value of pasta products. Enriched pasta products can provide a significant portion of an individual's Recommended Daily Allowance of niacin, riboflavin, thiamine, iron and vitamin B.

Pasta products are also excellent sources of complex carbohydrates. The new HEW and USDA dietary guidelines suggest that increasing the intake of complex carbohydrates is a positive health measure.

Plus pasta products can help a person lose weight and waistline inches by providing the bulk necessary to quiet hunger pangs.

The caloric fact is that pasta products compare favorably in calories with yogurt. The chart below shows the actual comparison.

**How pasta dishes compare with yogurt**

	PASTA (serving — one cup)	YOGURT
MACARONI	hot 155 calories cold 117 calories	150
MACARONI & CHEESE	hot 288 calories	150
NOODLES (EGG)	hot 200 calories	150
SPAGHETTI	hot 155 calories	150
SPAGHETTI TOMATO SAUCE & CHEESE	hot 190 calories	150
SPAGHETTI TOMATO SAUCE & MEATBALLS	hot 258 calories	150

**Overweight is out of date! Eat Pasta Products**

ADM Milling — supplying Breadwinners since 1902



### ADM

4550 W. 109th Street, Midvale, Missouri, 64586, (816) 481-1500

ADM also supplies quality bakers shortening, corn sweeteners, CO<sub>2</sub>, soy protein and vital wheat gluten for the baking industry.



Gary J. Kushner

### ECONOMIC RECOVERY TAX ACT OF 1981

by Gary J. Kushner and Scott E. Sterling  
Collier, Shannon, Rill & Scott,  
Attorneys-at-Law, Washington, D.C.

point life between 18 and 25 years, railroad tank cars, theme park structures, mobile homes, and utility coal-burning equipment used to replace or convert oil and gas-fired boilers and other real property with an ADR midpoint life of 12.5 years or less.

The 15-year class includes public utility property with an ADR midpoint life above 25 years.

For years 1981 through 1984, taxpayers may elect the straight line depreciation method, or a statutorily prescribed method of cost recovery which approximates the 150 percent declining balance with a switch to the straight-line method. For property placed in service in 1985, the prescribed method will accelerate to approximate the 175 percent declining balance method with a switch to the sum-of-the-years-digits method. For 1985 and subsequent years, the prescribed method will approximate the 200 percent declining balance method with a switch to the sum-of-the-years digits method.

#### Investment Tax Credit

Under the new law, the investment in the 3-year class and 10 percent for tax credit is 6 percent for property in the 5-, 10- and 15-year classes.

Under present law, unused investment credits may be carried forward 7 years and carried back 3 years. The new law extends the carryover period to 15 years.

#### Real Property

Real property generally is assigned a recovery period of 15 years. Taxpayers may use straight line depreciation or accelerated depreciation on the following schedule:

For years 1981 through 1984, the 150 percent declining balance method, rising to 175 percent for 1985, and 200 percent, or double declining balance, thereafter.

Taxpayers electing to write off over longer periods must use straight line depreciation. Low-income housing may be written off using the 200 percent declining balance method, changing to straight line. Other real property may use 175 percent,

changing to straight line to maximize depreciation.

Business may elect to expense up to \$5,000 of property placed in service in 1982 and 1983, \$7,500 in 1984 and 1985, and \$10,000 thereafter.

The Act raises the amount of used property eligible for the investment credit from \$100,000 to \$125,000 for 1981 through 1984, and to \$150,000 in 1985 and subsequent years.

The Act limits the amount of property eligible for the investment credit to the extent to which the taxpayer is "at risk." There are, however, exceptions from this rule for loans from financial institutions and other commercial lenders and for the energy investment credit.

\*The amount that the taxpayer has invested of his own money or loans for which he is personally liable.

#### 11. Corporate Rate Reduction and Other Business Provisions

##### Corporate Rate Reduction

The Act reduces the tax rate on the first \$25,000 of corporate taxable income from 17 percent to 16 percent in 1982 and to 15 percent in subsequent years. It also reduces the rate on the second \$25,000 of taxable income from 20 percent to 19 percent in 1982 and to 18 percent in subsequent years.

##### Incentive Stock Options

The Act reinstates capital gains treatment for stock options which meet certain conditions. There will be no tax consequences when these options are granted or when they are exercised, and employees will be allowed capital gains treatment on any gain on the sale of the stock. The aggregate amount of stock subject to such options for any employee in any calendar year is limited to \$100,000. However, employees are allowed a 3-year carryover of up to \$50,000 if they do not use up the full \$100,000 in any one year. In the case of options granted before 1981, the aggregate amount of stock for which any employee may be granted incentive stock options cannot exceed \$50,000 per year and \$200,000 in the aggregate.

This article summarizes the major business and investment provisions of the Economic Recovery Tax Act of 1981 ("Act") (Pub. L. No. 97-34) that President Reagan signed on August 13, 1981.

#### I. Accelerated Capital Cost Recovery Provisions

Present law allocates depreciation deductions over the period of time the asset is used. The Act replaces the present Asset Depreciation Range ("ADR") system of recovery with the Accelerated Cost Recovery System ("ACRS") for assets placed in service after December 30, 1980.<sup>1</sup> Under the new law most tangible property (i.e., real and personal) assets are grouped into four classes with predetermined recovery periods of 3, 5, 10 and 15 years.<sup>2</sup>

<sup>1</sup> Property placed in service prior to January 1, 1981 remains subject to cost recovery and depreciation provisions under the ADR system.

<sup>2</sup> ACRS generally does not apply to (1) property not depreciable in terms of years and (2) property amortized (e.g., leasehold improvements nad low-income rehabilitation expenditures).

#### Personal Property

The 3-year class consists of autos, light duty trucks, equipment used in research and development and other personal property with an ADR midpoint life of 4 years or less.

The 5-year class includes most other equipment except long-lived public utility property. Single purpose agricultural structures and petroleum storage facilities are included in this class.

The 10-year class includes public utility property with an ADR mid-

## ASEECO

### Meeting tomorrow's automation needs today.

Whether you need a simple conveyor or a complete automated distribution system, ASEECO has the answer. Through high quality products and service, ASEECO helps you accomplish your project quickly, efficiently and economically.

ASEECO offers much more than high quality, automated equipment. ASEECO is also a service company whose years of international processing experience can provide you with:

- Plant Engineering—Layout and Mechanical
- Electrical Engineering and Control Panel Design
- Machinery Selection and Procurement
- Evaluation of Sub-Contracts and Bids
- Erection and Installation of Machinery
- Plant "Start-Up" and Final Adjustment
- Training of Operating and Maintenance Personnel
- Service After Sale

#### PRODUCT TESTING:

To ensure the proper application and design of ASEECO products, a research and development facility is maintained to conduct actual on-product tests to determine handling characteristics and to obtain data for the design of specialized process machinery.

#### TURN-KEY PROJECTS:

In addition to the design, engineering and supply of equipment, ASEECO will, if desired, assist in commissioning a process facility on stream. This service includes the preparation of operating and maintenance manuals, the training of operating personnel, conducting trial and test runs and the supervision of initial operations.

#### PROJECT FINANCE PLANNING:

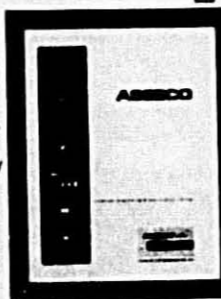
ASEECO is prepared to assist clients in obtaining comprehensive project financing. This assistance is inclusive of counseling on the type of financing best suited to your requirements and locating the source that can provide it.

### Ask for the following literature.

Name \_\_\_\_\_ Title \_\_\_\_\_  
 Company \_\_\_\_\_ Phone \_\_\_\_\_  
 Address \_\_\_\_\_ Zip \_\_\_\_\_

#### ASEECO Condensed Engineering & Specifications Catalog

16-page catalog provides features, applications, specifications and model selection guide for entire ASEECO line. Includes diagrams and photographs. U.S. and foreign sales offices listed. A must on any equipment specifier's desk.



#### ASEECO-LIR Overlapping Bucket Elevators

Simple design. Modular construction. Sanitary. Open tubular and solid well as well as totally enclosed models. One piece plastic buckets. Seven configurations—13 bucket sizes.



#### ASEECO Belt Conveyors

Available in troughed and flat slider bed designs. Flat and troughed roller bed, woven steel belt or intrinsic. Sanitary construction.



#### MODU/TRAN II® Vibratory Distribution System

Simultaneous conveying and distribution of product on demand to multiple packaging machines, hoppers, sorters and mixers without starvation or product recirculation. Compact. Sanitary design.



#### ASEECO Vibrating Conveyors

For conveying any free flowing or semi-free flowing material. Also for processing, heating, cooling, separating and screening applications. Exclusive flex spring linkage provides positive vibration of tray without damping underload. Available in natural frequency design.



#### ASEECO Selectomatic Bin Storage Systems

Fully automatic bin storage systems for free flowing materials. Sanitary construction and multitude of options.



#### ASEECO ACCUMAVEYOR®

Automatic storage system which accepts non-free flowing products at varying rates and discharges product on demand. Stores product in bulk. Fills the gap between continuous processing and packaging machines. Two basic models with inflex and discharge options to meet varying product characteristics.



ASEECO CORPORATION 8857 West Olympic Boulevard, Beverly Hills, CA 90211 (213) 652-5760 TWX: 913-460-2101



## Tax Act of 1981

(Continued from page 32)

### III. Small Business Provisions

#### Accumulated Earnings Credit

The Act increases the credit against the accumulated earnings tax from \$150,000 up to \$250,000.

#### Subchapter S Corporations

The Act increases the maximum number of shareholders for a subchapter S corporation from 15 to 25 and allows certain trusts to be qualified shareholders.

#### Inventory Accounting

The Act provides for the simplification of LIFO inventory accounting for small businesses. Businesses with average gross receipts of less than \$2 million for the prior 3 years are allowed to use a single dollar-value LIFO pool, and taxpayers switching to LIFO are given 3 years to take into income the inventory write-downs from prior years. Also, the Treasury Department is directed to issue regulations that would simplify the use of dollar-value LIFO inventory accounting through the use of published government indexes.

### IV. Incentives for Research and Experimentation

#### Tax Credit for Research and Experimentation

Under present law, a taxpayer may elect to deduct currently the amount of research on experimental expenditures incurred in connection with the taxpayer's trade or business, or may elect to amortize certain research costs over a period of 60 months or more.<sup>4</sup> The Act provides a 25 percent tax credit for certain expenditures incurred in research and experimentation, but only to the extent that such expenditures exceed the average of research expenditures during a base period.<sup>5</sup> This new credit will apply to expenditures made after June 30, 1981, and before 1986.

#### Charitable Contributions of Research Equipment

The Act permits corporations that contribute newly manufactured scientific equipment to colleges and universities to claim a charitable deduction equal to the taxpayer's basis plus 50 percent of the appreciation, but not to exceed twice the basis.

### Allocation to U.S. — Source Income

For 2 years, taxpayers are allowed to allocate expenditures for research and experimentation conducted in the United States entirely to U.S. — source income.

### V. Windfall Profit Tax Provisions

#### Royalty Owner Credit and Exemption

In 1980, qualified royalty owners were allowed a credit or refund up to \$1,000 against the windfall profit tax. Under the Act, royalty owners in 1981 are allowed a credit against the first \$2,500 of windfall profit tax liability. For 1982 through 1984, the Act provides an exemption from the windfall profit tax of 2 barrels a day of royalty production; and after 1984 it provides a 3-barrel-a-day exemption.

#### Stripper Oil Exemption

Stripper oil is that produced from a property that has had an average daily per well production average of 10 barrels or less for any consecutive 12-month period after 1972. The Act exempts stripper oil produced by independent producers beginning in 1983. The exemption does not apply to any stripper well oil production attributable to property owned on or after July 23, 1981 by a person other than an independent producer.

#### Newly Discovered Oil Tax Rate

The Act reduces the windfall profit tax rates on newly discovered oil from the current 30 percent to the following rates:

1982	27.5%
1983	25.0%
1984	22.5%
1985	20.0%
1986 and after	15.0%

### VI. Estate and Gift Tax Provisions

The estate and gift tax provisions of the Act are beneficial to small businesses and family owned and operated enterprises.

#### Unified Credit

The Act increases the unified credit against estate and gift taxes. As a result, the cumulative transfers exempt from these taxes is increased from \$175,025 under present law to

<sup>4</sup>I.R.C. § 174.

<sup>5</sup>The base period generally is 3 years.

\$225,000 in 1982, \$275,000 in 1983, \$325,000 in 1984, \$400,000 in 1985, \$500,000 in 1986, and \$600,000 in 1987 and subsequent years.

#### Rate Reduction

The Act reduces the top estate and gift tax rate from 70 percent to 65 percent in 1982, 60 percent in 1983, 55 percent in 1984, and to 50 percent in 1985 and subsequent years.

#### Marital Deduction

Beginning in 1982, the Act removes the quantitative limits on the marital deduction under both the estate and gift taxes so that no transfer tax is imposed on transfers between spouses. It also makes certain terminable interests eligible for the deduction.

#### Current Use Valuation

The Act increases the maximum amount by which the taxable estate may be reduced under the provision for current valuation from \$500,000 to \$600,000 in 1981, \$700,000 in 1982, and \$750,000 in 1983 and subsequent years. It also makes a number of technical modifications making current use valuation easier to use and liberalizing eligibility for it.

#### Gift Tax Exclusion

The Act increases from \$3,000 to \$10,000 the limit on the annual exclusion from the gift tax for gifts to any single donee. It also exempts from the gift tax certain gifts made to pay for medical expenses and school tuition.

### Legislative Interest

Current issues of major concern to trade and professional associations in order of importance: OSHA, tax incentives for savers and investors, capital cost recovery, omnibus regulatory reform, lobby law reform, budget act, small business tax relief, individual tax rate reduction, minimum wage, FTC reform.

### Where the Cuts Are

"We are not cutting the budget. We're cutting the rate of growth in federal spending. The budget next year, the budget the year after and the budget the year after that will be larger than the budget is now." — Secretary of the Treasury Donald T. Regan.

## BASIC STRUCTURE OF DURUM WHEAT EMPHASIZING ITS UNIQUE CHEMICAL, PHYSICAL AND QUALITY CHARACTERISTICS

by J. W. Dick, Department of Cereal Chemistry and Technology, North Dakota State University

In reviewing the literature it becomes readily apparent that there is not an overabundance of data which makes direct comparisons between durum wheat and other classes of wheat. However, there have been general conclusions reported which may have been valid at the time of their writing but are certainly subject to change with the development of new processing technology and new wheat varieties. Most research to compare wheat varieties or classes is done to determine what makes one sample superior to another for producing an acceptable end-product. This report will summarize some of the literature reported in the past fifteen years and should be quite representative of differences that might be seen among types of wheat commercially available in substantial quantities at the present time.

### Chemical Composition

Chemical composition of the whole wheat kernel shows that the major components by percentage are carbohydrates and protein with a small percentage of lipid material present. Starch which is the predominant carbohydrate of the kernel, is found exclusively in the endosperm, while the other polysaccharides are more prevalent towards the outer area of the kernel. Proteins occur in all tissues of the wheat grain, however, the protein as well as the lipid materials are concentrated heavily in the aleurone layer and the embryo and scutellum. Nevertheless 70-75% of the total protein is contained in the endosperm since by weight it comprises the major part of the kernel.

Shelton et al. (1967) fractionated durum semolina and hard red spring wheat farina into starch, gluten, water solubles and sludge, and prepared reconstituted blends to determine the effect of those various component fractions on macaroni quality. They attributed major differences in quality primarily to the gluten fraction. Durum gluten or water solubles substituted for those of HRS wheat improved

COMPOSITION OF DIFFERENT PARTS OF THE WHEAT KERNEL

KERNEL TISSUE <sup>1</sup>	CRUDE		REDUCING		PENTOSANS	CELLULOSE	ASH
	PROTEIN	LIPID	STARCH	SUGARS			
	%	%	%	%	%	%	%
WHOLE KERNEL	12.0	1.8	58.5	2.0	6.6	2.3	1.8
PERICARP	7.5	0.0	0.0	0.0	34.5	38.0	8.0
TESTA AND HYALINE	15.5	0.0	0.0	0.0	50.5	11.0	8.0
ALEURONE LAYER	24.0	8.0	0.0	0.0	38.5	3.2	11.0
OUTER ENDOSPERM	16.0	2.2	62.7	1.6	1.4	0.3	0.8
INNER ENDOSPERM	7.9	1.6	71.7	1.6	1.4	0.3	0.8
EMBRYO AND SCUTELLUM	26.0	10.0	0.0	26.0	6.5	2.0	4.5

<sup>1</sup>PROTEIN CONTENT CALCULATED BY NITROGEN X 5.83; MOISTURE CONTENT, 15%.

PHYSICAL AND CHEMICAL CHARACTERISTICS OF HARD RED SPRING (HRS), DURUM, AND HARD RED WINTER (HRW) WHEATS

WHEAT SAMPLE	TEST WEIGHT LB/BU.	1000 KERNEL WEIGHT G	KERNEL SIZE, %			MOISTURE %	PROTEIN <sup>1</sup> %	ASH <sup>1</sup> %	TOTAL EXTRACTION <sup>2</sup> %
			LG.	MD.	SM.				
HRS W.	62.6	36.8	54.5	43.5	00.0	11.7	13.8	1.605	77.1
DURUM W.	62.8	50.5	45.5	54.5	00.0	12.5	13.6	1.510	68.1
HRW W.	61.7	37.3	24.0	61.5	14.5	11.9	11.7	1.645	77.2

<sup>1</sup>14.0% M.B.

<sup>2</sup>TOTAL PRODUCT BASIS.

### RHEOLOGICAL DATA OF THE GRANULAR MILL STREAMS SAMPLES

	FARINOGRAPH		MIXOGRAPH	WET
	ABSORPTION <sup>1</sup>	SCORE <sup>2</sup>	SCORE <sup>3</sup>	GLUTEN <sup>1</sup>
	%			
HRS				
SIZE II	37.6	3.0	6.5	32.0
P-1 & P-2 BLEND	35.8	5.0	5.5	32.9
DURUM				
SIZE II	42.6	1.0	5.0	44.0
P-1 & P-2 BLEND	34.0	2.0	2.0	37.2
HRW				
SIZE II	34.6	8.0	5.5	29.9
P-1 & P-2 BLEND	33.0	8.0	5.0	25.0

<sup>1</sup>14.0% MOISTURE BASIS

color and increased cooking residue. Substituting durum gluten alone for that of HRS wheat increased cooked macaroni weight and decreased cooked macaroni firmness.

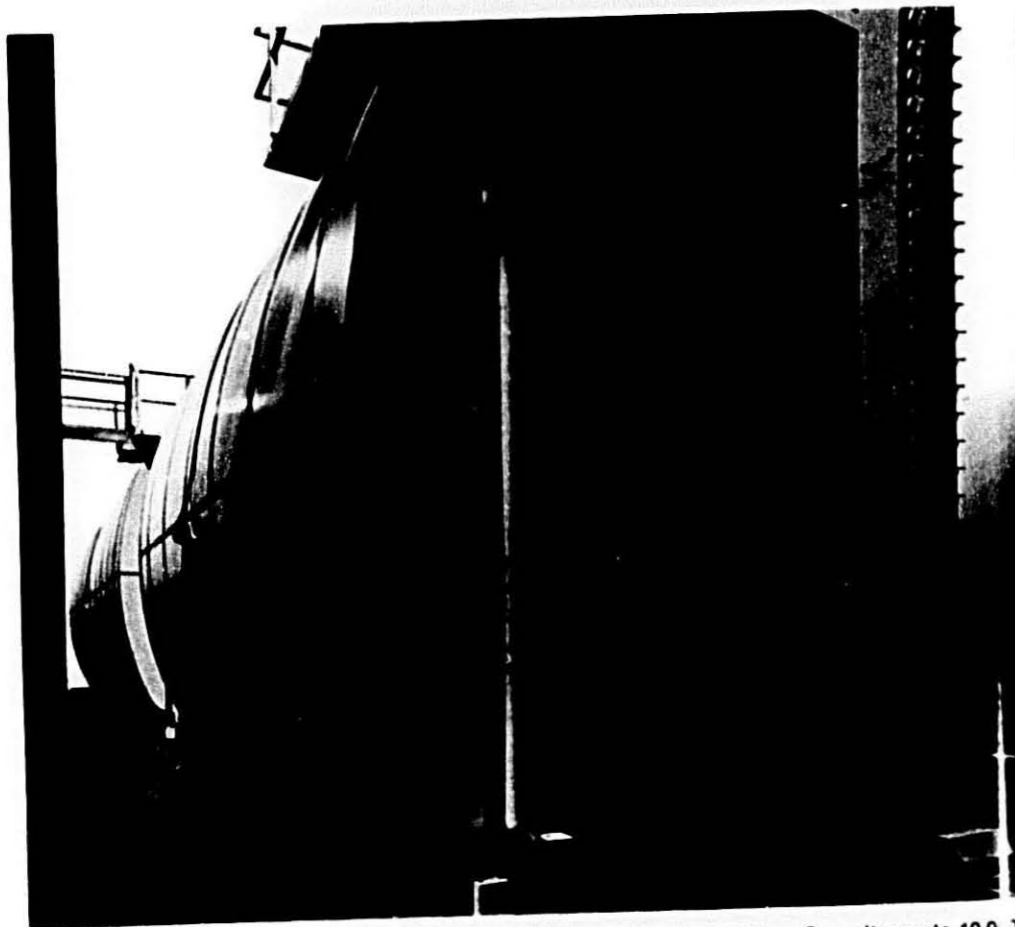
Walsh and Gilles (1971) in the fractionation of the crude protein showed a significant difference between durum

and HRS wheat. They reported a higher gliadin content but lower glutenin content in durum wheat compared to HRS wheat. They found that poor spaghetti color was associated with high albumin and glutenin contents, and that high spaghetti firm-

(Continued on page 38)

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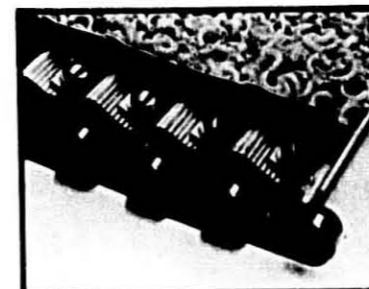
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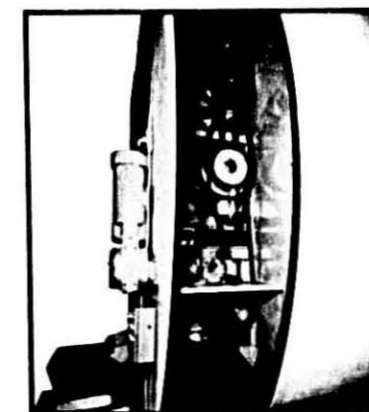
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OCTOBER, 1981



## Durum Wheat

(Continued from page 35)

ness was associated with high glutenin but low gliadin contents. Later work by other groups (Wasik and Bushuk, 1975, and Matsuo et al., 1972) supported the findings of Walsh and Gilles that glutenin imparts good cooking quality to spaghetti. Dexter and Matsuo (1977) indicated that total glutenin was the most important factor in determining cooking quality and suggested there was a threshold level of glutenins necessary to obtain satisfactory cooking quality.

### Gluten Strength

Matsuo and Irvine (1970) noted a relation between gluten strength and spaghetti firmness for durum wheats, but they found no relation for Vulgare wheats. They stated that protein content is therefore not necessarily related to firmness in cooked spaghetti. They showed that although HRS wheat gluten was the strongest of the samples tested in terms of extensibility and shearing, the development time was shortest and the mixing tolerance was the poorest at dough absorption of 31.5%. These workers concluded from their reconstitution studies that a number of factors are involved in cooking quality but the most important constituent is gluten, and the gluten quality is at least as important as gluten quantity.

### Protein Essential Component

Dahle and Muenchow (1968) noted that protein is an essential structural component in pasta products. Removal of protein or lipid fractions adversely affected the retention of amylose. Removal of protein from spaghetti resulted in higher water absorption and cooking loss, and greater stickiness, softness and pastiness. A cooking study by Grzybowski and Donnelly (1979) showed that both protein quantity and quality have a significant influence on spaghetti cooking loss and cooked firmness. Strong gluten appeared to contribute to better cooking stability. High protein content did not necessarily mean optimum cooking quality although the higher the protein content the slower was the rate of hydration during cooking; therefore the slower the gelatinization of the starch granules.

## CHARACTERISTICS OF DURUM WHEATS COMPARED WITH COMMON BREAD WHEATS

SEPARATE SPECIES OF WHEAT  
TETRAPLOID (28 CHROMOSOMES); OTHER WHEATS  
HEXAPLOID (42 CHROMOSOMES)  
HARDEST OF ALL WHEAT CLASSES  
TOUGH, HORNY ENDOSPERM  
AMBER IN COLOR  
HIGHEST TEST WEIGHT AND 1000 KERNEL WEIGHT  
KERNEL SIZE LARGER IN RELATION TO HEIGHT AND WIDTH  
ENDOSPERM HAS HIGHER LEVEL OF XANTHOPHYLL PIGMENTS WHICH GIVES SEMOLINA ITS BRIGHT AMBER COLOR

### SPAGHETTI PROCESSING DATA OF THE PURIFIED GRANULAR MILL STREAMS SAMPLES

GMS SAMPLE	COLOR SCORE	COOKED WEIGHT G	COOKING LOSS %	FIRMNESS SCORE G.CM.
HRS				
SIZE II	4.0	26.9	6.6	5.3
P-1 & P-2 BLEND	5.0	26.2	4.0	7.7
DURUM				
SIZE II	9.5	28.1	7.3	5.0
P-1 & P-2 BLEND	9.0	28.4	5.5	4.8
HRW				
SIZE II	4.3	27.1	5.4	5.7
P-1 & P-2 BLEND	4.3	27.9	5.4	6.7

### PRELIMINARY ANALYSIS OF CEREAL GRAIN FLOURS

SAMPLE	PROTEIN <sup>1</sup>	ASH <sup>1</sup>	FAT <sup>1</sup>	STARCH <sup>1</sup>	PENTOS <sup>1</sup>
HRS	16.1	0.45	1.64	71.9	4.0
DURUM	17.5	0.78	1.75	70.2	4.3
RYE	11.0	0.95	1.92	73.4	6.0
TRITICALE	12.4	0.61	1.80	74.7	4.3

<sup>1</sup>DRY BASIS.

THE MACARONI JOURNAL

The polysaccharides of durum wheat also have been studied to some extent. Medcalf and Gilles (1965) studied the starches extracted from wet crushed grain representing several varieties of wheat including durum, HRS, hard red winter (HRW) and soft wheat classes. They reported no significant differences between the HRS and the durum starches polymers amylose and amylopectin, although durum starches from these samples had a slightly higher percentage of amylose. Starches from durum generally had larger water-binding capacities, greater rates of iodine absorption and slightly lower temperatures of initial pasting than those from other wheat classes. These data suggested to the authors that solvents could penetrate durum starches more readily than other wheat starches. The authors found that durum starch granules consistently had lower densities than HRS wheat starches. They suggested that the less compact nature of the durum starch might explain why durum starches had been reported to be more susceptible to enzyme attack and possess a greater swelling capacity than other wheat starches. The fact that the durum starch showed a lower initial pasting temperature also might be related to the suggested less-compact granule structure.

### Starch Comparisons

A study by Berry et al (1971) compared the starches of durum wheat, HRS wheat, triticale and rye extracted from roller milled flour. The HRS, rye and durum starches showed similar water binding capacities in this case. Gelatinization curves showed rye starch to have the lowest temperature of initial pasting and HRS the highest. Triticale and durum starches indicated the same temperature of initial pasting, similar starch granule densities, and a similar granule size distribution, although durum appeared to have the smallest average particle size of all four cereals tested.

Medcalf et al. (1968) compared the pentosans from the endosperm of durum and HRS wheat, and observed relatively small differences. However, they indicated that small differences in the degree of branching of the molecules might markedly alter the degree and type of interaction of

(Continued on page 40)

OCTOBER, 1981

## PHYSICAL AND CHEMICAL DATA OF THE PURIFIED GRANULAR MILL STREAMS SAMPLES

GMS SAMPLE	EXTRACTION <sup>1</sup>	MOISTURE	COLOR SCORE	STARCH <sup>2</sup> DAMAGE
HRS				
SIZE II	8.2	13.6	5.0	10.6
P-1 & P-2 BLEND	7.7	13.4	8.0	3.2
DURUM				
SIZE II	12.1	13.5	10.5	16.4
P-1 & P-2 BLEND	9.1	13.3	14.0	3.7
HRW				
SIZE II	7.4	13.2	6.0	9.1
P-1 & P-2 BLEND	5.7	13.3	8.5	1.8

<sup>1</sup>TOTAL PRODUCTS BASIS.

<sup>2</sup>FARRAND EQUIVALENT UNITS EXPRESSED ON A DRY BASIS.

### PARTICLE SIZE DISTRIBUTION DATA OF THE GRANULAR MILL STREAMS SAMPLES

GMS SAMPLE	PARTICLE SIZE DISTRIBUTION, %				
	>420 $\mu$	420 $\mu$ -250 $\mu$	250 $\mu$ -177 $\mu$	177 $\mu$ -149 $\mu$	<149 $\mu$
HRS					
SIZE II	00.0	2.8	9.2	25.2	62.8
P-1 & P-2 BLEND	59.3	39.6	0.5	0.2	0.4
DURUM					
SIZE II	00.0	5.9	24.8	28.2	41.1
P-1 & P-2 BLEND	58.5	39.8	0.9	0.2	0.6
HRW					
SIZE II	00.0	1.0	7.4	21.9	69.7
P-1 & P-2 BLEND	62.4	36.3	0.6	0.2	0.5

### PROTEIN COMPOSITION OF DURUM AND HRS WHEAT<sup>1</sup>

	PROTEIN FRACTION				
	ALBUMIN %	GLOBULIN %	GLIADIN %	GLUTENIN %	RESIDUAL %
DURUM	13.2	12.0	39.8	21.5	14.5
HRS	16.2	9.4	34.2	34.6	5.5

<sup>1</sup>REPRESENT AVERAGE VALUES

### Durum Wheat

(Continued from page 39)

polysaccharide with protein, and differences in molecular weight could alter this interaction reaction thus affecting such things as water absorption.

In order to determine the role of starch or the effect of starch on pasta quality Sheu et al. (1967) isolated the various fraction of durum and HRS wheat. They indicated that HRS wheat starch and sludge fractions gave increased macaroni firmness when substituted for the corresponding durum fraction, while durum starch and sludge had the opposite affect when substituted for HRS fractions.

#### Gelatinization of Starch

Banasik et al (1976) reported that during extrusion of a pasta product the heat and pressure cause the starch to partially gelatinize and that the intermixing of the partially gelatinized starch and protein is quite uniform. They added that starch gelatinization is completed during cooking and that the protein reappears as chain-like fibrils of coagulated protein. They explained that this network of starch and protein is important in establishing the resistance to the break of the cooked pasta.

Grzybski and Donnelly (1977) followed the change in spaghetti starch gelatinization during cooking by observing the loss of starch granule birefringence. Their results showed that the rapidity of starch gelatinization was in part a function of protein content, and that gelatinization was more rapid at relatively lower protein levels. Marshall and Wasik (1974) showed results which suggested that gelatinization of the starch takes place gradually during cooking of pasta since loss of birefringence of the granules is like a migration from outer to inner zones of the pasta with time. All of the above findings make it appear that while the protein quality and quantity do affect the cooking quality of pasta, the optimum end point in cooking is determined by characteristics of the starch.

#### Analysis of Lipids

A quantitative analysis of lipids extracted from HRS wheat flour and durum wheat semolina was reported

(Continued on page 42)

TOTAL, NONPOLAR AND POLAR LIPIDS OF WHEAT

TYPE OF SAMPLE	NUMBER OF SAMPLES	TOTAL LIPIDS <sup>1</sup> %	NONPOLAR LIPIDS <sup>2</sup> %	POLAR LIPIDS <sup>2</sup> %	RECOVERY FROM T.C. PLATE %
HRS WHOLE WHEAT	6	RANGE 1.40-1.89 AVERAGE 1.55	68.8-71.2 70.2	28.8-31.2 29.8	88.3-95.6 92.5
DURUM WHOLE WHEAT	6	RANGE 1.26-2.02 AVERAGE 1.60	71.4-76.3 73.6	23.3-28.7 26.4	85.4-96.2 91.5
HRS WHEAT FLOUR	10	RANGE 0.93-1.22 AVERAGE 1.06	46.7-57.1 51.0	42.9-53.3 49.0	84.8-96.7 90.6
DURUM WHEAT SEMOLINA	11	RANGE 0.85-1.32 AVERAGE 1.06	55.7-66.3 62.7	33.7-44.3 37.3	85.3-95.1 90.9

<sup>1</sup>SINGLE DETERMINATION FOR EACH SAMPLE EXPRESSED ON A DRY BASIS.

<sup>2</sup>AS PERCENT OF RECOVERED LIPIDS.

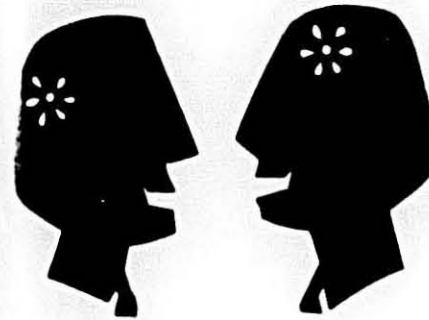
CHEMICAL DATA OF THE PURIFIED GRANULAR MILL STREAMS SAMPLES

GMS SAMPLE	MOISTURE	PROTEIN <sup>1</sup>	ASH <sup>1</sup>	GLUTEN <sup>1</sup>
HRS	11.7	13.8	1.605	---
SIZE II	13.6	10.9	0.328	32.0
P-1 & P-2 BLEND	13.4	11.7	0.338	32.9
DURUM	12.5	13.6	1.510	---
SIZE II	13.5	12.2	0.480	44.0
P-1 & P-2 BLEND	13.3	12.6	0.554	37.2
HRW	11.9	11.7	1.645	---
SIZE II	13.2	9.8	0.391	29.9
P-1 & P-2 BLEND	13.3	10.1	0.432	25.0

<sup>1</sup>14.0% MOISTURE BASIS.

PARTICLE-SIZE DISTRIBUTION OF CEREAL STARCHES

SAMPLE	SED $\mu$ RANGE DISTRIBUTION				10
	>40	30-40	20-30	10-20	
HRS	0	3	41	46	10
DURUM	0	2	31	49	18
RYE	6	17	49	26	2
TRITICALE	0	7	28	55	10



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## Durum Wheat

(Continued from page 40)

by Lin et al. (1974). Their findings showed that durum semolina was higher in nonpolar lipids and lower in polar lipids than HRS wheat flour even though the ratio of these lipid components was similar in the whole wheat analysis of the two wheat classes. However, some of these differences could be caused by differences in milling extraction which were not mentioned in the report. In a follow-up reconstitution study these workers (Lin et al. 1974) concluded that, in general, neither nonpolar nor polar lipids affected the cooking quality of spaghetti to any extent, although adding nonpolar lipids to defatted semolina restored and slightly improved spaghetti color. A useful function of the differences in lipid components between wheat classes has been the development of chemical tests to detect HRS wheat farina in durum semolina lots. (Gilles and Youngs, 1984, and Hsieh et al., 1981)

Durum wheat has historically been the preferred raw material for the manufacture of macaroni products although almost any type of wheat can be used for the purpose. Depending on the variety and the environment in which they are grown, durum wheats vary widely in their characteristics.

### Preferred Raw Material

Durum, which is a separate species of wheat, generally has a very hard kernel and has a tough, horny endosperm. The majority of durum varieties are amber in color, have a relatively high test weight and 1000 kernel weight and have a kernel which is longer in relation to its height and width compared to common bread wheats. The endosperm of the durum kernel has a high level of xanthophyll pigments which gives its granular milled product, semolina, a bright yellow color. Because the durum wheat kernel is so hard and tough it lends itself readily to the production of semolina. In most cases, semolina is desirable over flour. Perhaps the most important advantage of semolina over flour is that it requires less water to form a dough. This lower absorption is an important energy saving consideration since there is less water to remove during the drying operation.

WHEAT QUALITY TESTS FOR DURUM

WHEAT	SEMOLINA	SPAGHETTI
TEST WEIGHT	MILLING CHARACTERISTICS	PROCESSING PROPERTIES
VITREOUSNESS	SEMOLINA AND FLOUR YIELD	COLOR
1000 KERNEL WEIGHT	PROTEIN	COOKED WEIGHT
KERNEL DISTRIBUTION	ASH	COOKING LOSS
MOISTURE	GLUTEN STRENGTH	COOKED FIRMNESS
PROTEIN	SPECKS	
ASH		
FALLING NUMBER		

### Comparisons

To show some comparisons between durum wheat and other hard wheats, the thesis of El-Sayed Mousa (1979) will be discussed. In this work three commercial wheat blends including HRS, durum and HRW were milled on a pilot mill specifically flowed for producing bread flour. Some intermediate granular millstreams were collected before they could be reduced down into a flour.

Although all of the data on the preceding slides of this series represent only one sample for each wheat class, and wheat varieties within classes can vary considerably, these data should be fairly representative of what is available commercially at the present time.

The next table shows some physical and chemical comparisons of the three wheat samples. The durum sample has a high test weight, 1000 kernel weight and wheat protein content, intermediate kernel size, low wheat ash and low milling extraction. The low total milling extraction of the durum sample can probably be attributed to the very hard characteristic of the durum kernel. This phenomenon is further illustrated in the next table which shows the particle size distribution of some granular millstreams from the wheats. All three classes of wheat show a similar size distribution for the large granulation millstream, but the durum sample shows a higher percentage of large particles in the smaller granulation millstream. This would indicate that the durum endosperm requires a harder grinding to reduce its particle size. Not only does durum exhibit a larger, average particle size but it

also gives a higher extraction of granular millstreams than the bread wheats. The hardness of the durum endosperm is also illustrated by its greater percentage of starch damage. As expected, the color score of the durum streams was much higher than in the bread wheats.

### On Page 35

The chemical data in the next table show that these durum millstreams have a higher protein content in proportion to the protein content of the whole kernel, compared to the same ratio for either the HRS or the HRW wheats. Also, the durum millstream ash content shows a similar relation. Perhaps the durum has a more even distribution of protein and ash throughout the kernel than do the bread wheats. The durum samples also have a higher wet gluten content than the other wheats. However, the rheological data show that the wet gluten content is not necessarily the best indicator of absorption or gluten strength potential, since both the HRS and HRW wheat had values of absorption and mixing extender than their gluten contents would originally suggest. This illustrates the wide range in quality characteristics that do exist between gluteins from different wheats.

### On Page 38

Spaghetti quality of these wheats shows that durum has a much more yellow color, higher cooked weight and cooking loss, and less firmness. All of the data from this particular study should be qualified with the fact that the durum variety used in this comparison was of the weak mixing type which is representative of

commercially available durum. Although no direct comparisons are available between the new, stronger mixing durum varieties and bread wheats, the strong mixing durums do show better cooking qualities than the weak mixing type durum varieties.

### Importance of Knowing

The importance of knowing the physical-chemical properties of a wheat is that these properties manifest themselves in the processing and ultimately in the final product quality. Knowing the exact chemical or physiological make-up of a durum wheat many times be used as a tool to aid the plant breeder in developing new breeding techniques, or to help the cereal chemist determine basic structural differences or explain why quality differences exist between samples. In the final analysis, however, a durum sample will be judged for quality by the miller, pasta processor and, ultimately, the consumer. For that reason, one must use a combination of physical and chemical measurements to determine the potential functionality of the wheat with respect to its value as an end-product. The following is a listing of the major routine quality tests that are used to evaluate durum quality. All of these parameters are important to a certain degree. Because durum wheat is unique with respect to meeting the requirements of these measurements, it has been the raw material of choice for use in pasta products and will continue to do so if these demands are met.

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### U.S. Wheat President Resigns

Larry Montgomery submitted his resignation as president of U. S. Wheat Associates, Inc. in a letter to J. Ole Sampson, chairman of the board of directors. The resignation was effective Aug. 14.

Mr. Montgomery became the first president of the newly-established U.S. Wheat Associates in April 1980. U.S. Wheat was formed through a merger of Great Plains Wheat, Inc., and Western Wheat Associates, U.S.A., Inc. in January 1980.

After citing what he described as a year of progress and success in implementing the merger, Mr. Montgomery said in his letter to Mr. Sampson, "Where we go, how rapidly we

get there, and what techniques we use have become a stalemate between the president and the board. It is not fair to the wheat farmers of America not to have the board and president in complete harmony."

In submitting his resignation, Mr. Montgomery said, "This will allow the board to select a president who more nearly represents their own thinking."

### World Market Will Grow

The world may depend on the U.S. for 15 percent of its agricultural supplies by 1985, says Patrick M. O'Brien, an Agriculture Department economist. That figure compares with 2 percent in the early 1950s and 11 percent in the late 1970s.

For the past two decades, O'Brien says international trade in food has expanded more than twice as fast as production.

Although foreign countries may increase the amount of land under cultivation, much of it is likely to be semi-arid and subject to fluctuations in weather, O'Brien says.

### Multiple Car Rates

Burlington Northern Railroad has introduced eastbound multiple car rates which became effective July 1. The reduced rates affect sunflowers and wheat moving to Duluth and Minneapolis. The 26-car multiple origin (2-4 elevators) rate is 15¢ per cwt. lower than the current applicable single car rate; the 26-car single origin rate is 20¢ less than the single car rate; the 52-car rate is 25¢ less than the single car rate.

The Soo Line has announced 3-car reduced rates on wheat from North Dakota to Minneapolis and Duluth. These rates on 3-car moves are 10¢ per cwt. less than existing rates for single car moves.

### The Federal Fringe

"When someone once asked President Coolidge how many people worked for the government, Silent Cal replied, 'About half of them.'"—From an article in *Industry Week* magazine by Dr. Michael K. Evans, Washington economist.



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### Dr. Elizabeth Sloan

Dr. A. Elizabeth Sloan has been appointed Director of the Good Housekeeping Institute by John Mack Carter, the magazine's editor-in-chief.

She has been director of scientific services of the American Association of Cereal Chemists.

"Dr. Sloan brings to us extensive experience in communications concerning food and nutrition," Carter said, "which coupled with her many scientific credentials makes her ideally suited to direct the Institute.

The Good Housekeeping Institute is the major editorial service division of Good Housekeeping magazine responsible for giving advice to readers on how to run their homes intelligently.

Since it was first organized in 1901, the Institute has been a leader in consumer education and product evaluation for the guidance of the magazine's editors. Under Dr. Sloan's supervision will be a professional staff of 70, including home economists, dietitians, chemists, engineers, beauticians, technicians, administrative and clerical personnel.



Dr. Elizabeth Sloan

### At the AACCC

At the AACCC Dr. Sloan, in addition to being director of scientific services, served as executive editor of Cereal Foods World and as editor of Cereal Chemistry, an international research journal. She has also written two books on nutrition and dozens of professional articles and brochures.

Prior to her AACCC association, which started in May 1980, she was with General Mills Inc. for three years, and was manager of nutrition communication and technical services when she left. Her responsibilities included planning, directing and controlling GMI's divisional, external, nutrition-education and communications programs.

Before that, she was the consumer columnist for the Minneapolis Star and Tribune for three years, covering the fields of food, nutrition and health-related subjects.

Dr. Sloan was graduated with honors in 1973 from Rutgers University with a degree in food technology. She earned her Ph.D. in food science and technology from the University of Minnesota, where she minored in mass communications and journalism.

She has received many scholastic and professional awards, and served the past four years as national scientific lecturer for the Institute of Food Technologists.

Dr. Sloan is married to Dr. T. P. Labuza, professor of food science and technology at the University of Minnesota and a widely known consultant to government and industry.

International Durum Forum  
Rastaville II, Minot, N.D.  
November 9-16, 1981

### Wright at Westpack

Throughout Wright Machinery Division of Rexham Corporation will introduce another innovation in packaging machinery at '81 Westpack. Wright will exhibit a new design originated from the gravity action bag-maker combined with an auger filler.

The new high speed system is designed specifically for packaging coffee, spices and other free flowing products and operates at 80-100 bags per minute in smaller bag sizes up to 4" by 6". The machine will form bags up to 12" x 22" maximum size. In addition to the conventional Wright Machinery features the GA/Auger System has several major new features: low profile design, variable speed film drive and film assist drive rollers . . . all designed for increased quality control and efficiency.

Wright's GA/Auger System is available with sealing for polyethylene and conventional film, and alternate fillers are also available. See Wright Machinery's GA/Auger System at Westpack '81, BOOTH 774 or contact Delano Verricchia, Domestic Sales Manager, Wright Machinery, Durham, N.C. 27702.

### Wright Machinery Sales Manager

Wright Machinery of Durham North Carolina has announced the appointment of a new Domestic Sales Manager. Delano Verricchia has assumed the position, with responsibility for the sales of Wright Machinery in the U.S.

Verricchia moves from Sales Representative in the Southeast U.S. position he held for 1 1/2 years. Previously he was Midwest Sales Representative for 12 years, and has with Wright Machinery for 25 years. Delano Verricchia is a native of Durham, N.C.

Wright Machinery is a division of Rexham Corporation, Charlotte, N.C. and is one of the oldest packaging machinery manufacturers in the United States.

NMMA Winter Meeting  
The Breakers Hotel  
Palm Beach, Florida  
Feb. 28-March 4, 1982

THE MACARONI JOURNAL

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