

**THE  
MACARONI  
JOURNAL**

**Volume 44  
No. 6**

**October, 1962**

Macaroni  
Journal



OCTOBER, 1962

Macaroni Makes  
The Menu



# The Macaroni Journal

October  
1962  
Volume 34  
Number 6

Official publication of the National Macaroni Manufacturers Association  
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## Cover Photo

Everyone loves macaroni and cheese. It's a favorite family dish. It is equally suitable for the formal dinner menu, family meals, and special occasions. The versatility of macaroni is topped with the addition of sauce, and served in the individual casserole. — National Macaroni Institute

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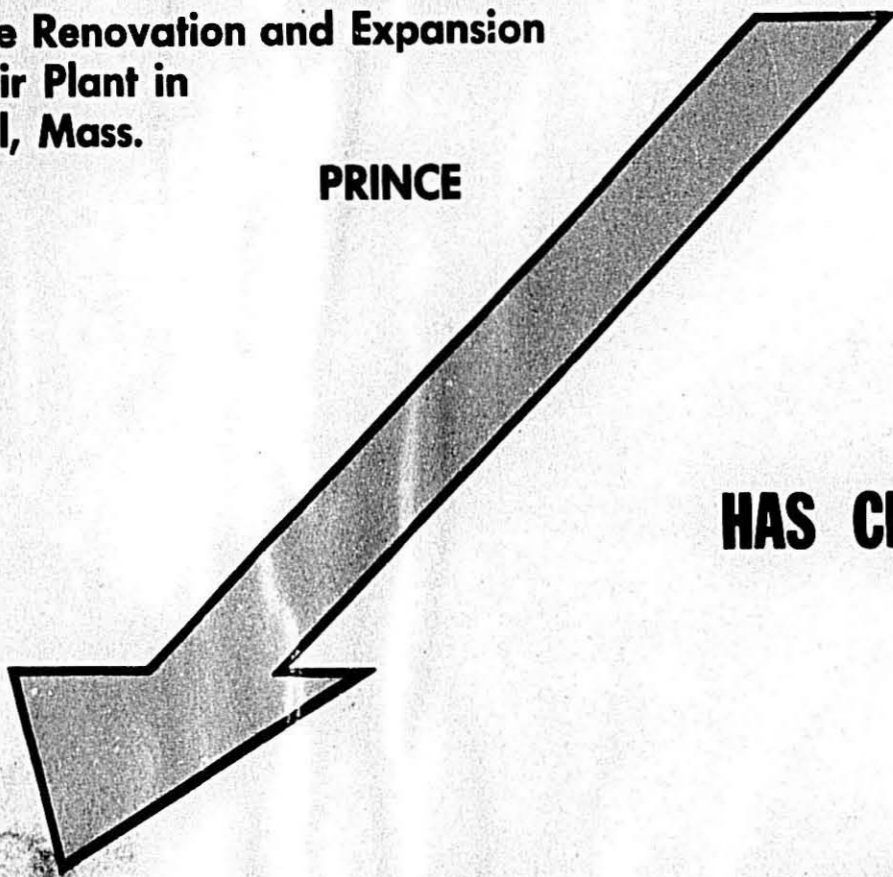
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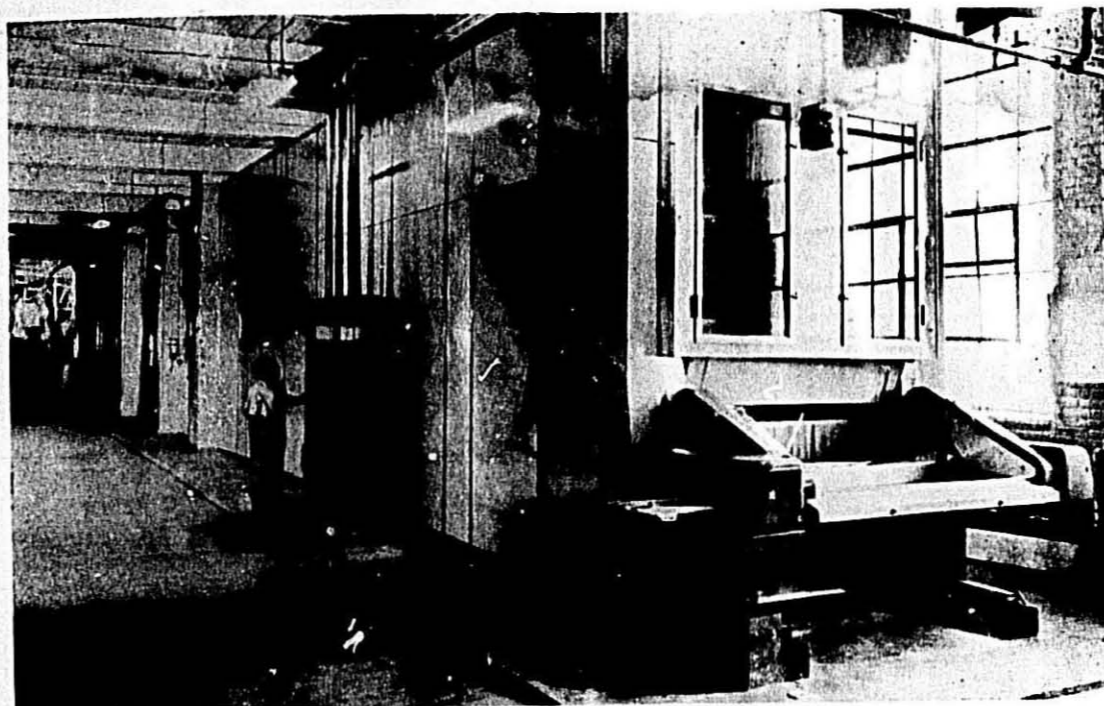


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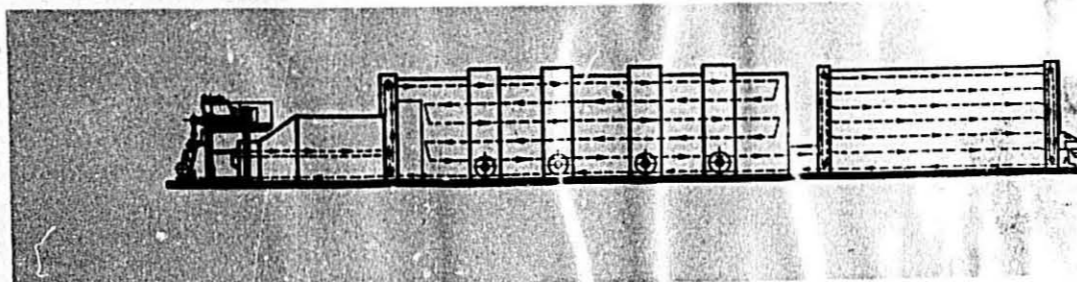
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OCTOBER, 1962

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**FTC Charges NMMA Rigged Durum Prices.  
"Ridiculous," Replies Association President.**

On August 15 the United Press International carried this story from Washington, D.C.:

The Federal Trade Commission has charged the nation's principal manufacturers of macaroni products with illegally lowering the quality of their products and suppressing competition. (The Associated Press added: "In an illegal scheme to bolster profits.") A Federal Trade Commission complaint also accused the more than 140 members of the National Macaroni Manufacturers Association, of illegally rigging the price of durum wheat from which quality macaroni is made. The complaint specifically named five officers of the association and three member companies said to be representative of the entire membership.

The firms are Ronzoni Macaroni Company of Long Island City, New York; Ravarino & Freschi, Inc. of St. Louis, and Superior Macaroni Company of Los Angeles. The officers named are Emanuele Ronzoni, Jr., Albert Ravarino, Fred Spadafora, Robert I. Cowen and Robert M. Green.

The Federal Trade Commission alleged that the members agreed that macaroni manufacturers should use half and half blends of durum and other types of wheat in making their products.

The Federal Trade Commission said the agreement occurred at a durum conference at Minneapolis on or about August 16, 1961. The alleged agreement also said durum millers should offer the blended wheat to the macaroni manufacturers. As a result the Federal Trade Commission said the available supply of durum wheat was doubled and growers were deprived of free market prices on the Minneapolis Grain Exchange.

"The demand for durum products stems almost entirely from macaroni manufacturers," the Federal Trade Commission added. The result of the Minneapolis meeting, the Federal Trade Commission complaint added had "the effect of eliminating quality competition in macaroni products" and of lowering their quality.



Albert Ravarino

A release prepared by Theodore R. Sills & Company was carried at the same time:

National Macaroni Manufacturers Association's president Albert Ravarino called charges of price and quality fixing leveled against the association by the Federal Trade Commission as "ridiculous."

He said the FTC assertion that limited use of preferred durum wheat in macaroni products by NMMA members has "tended to deprive the public of high-quality macaroni products" is "based on a complete misapprehension of the basic facts."

A severe shortage of durum wheat, Ravarino said, made necessary the recommendation by the NMMA to its members that they use a blend of 50 per cent durum rather than higher proportions of the choice wheat in their products during the current crop year.

"Crop failures here and abroad, combined with heavy exports from the United States, resulted in a severe shortage of durum wheat," he said. "Domestic users were left with no choice but to stretch the available supply."

Durum is a hard wheat prized by macaroni, spaghetti and noodle makers because of its nutty flavor and amber

color. Most United States manufacturers customarily use durum exclusively in their products.

North Dakota, which produces 60 per cent of the United States durum wheat crop, suffered a severe drought last year. The 1961 durum crop of 18,627,000 bushels fell 11,000,000 bushels short of meeting domestic and export needs, according to Ravarino. More favorable weather and increased acreage hopefully will help end the shortage this year, he said. The United States Department of Agriculture this month estimated the 1962 crop at 57,000,000 bushels.

"A completely acceptable macaroni product can be made from a blend of 50 per cent durum and 50 per cent other hard wheats whose characteristics closely resemble durum," Ravarino asserted. "This ratio permits the highest quality product consistent with the supply of durum wheat and equitably spreads out the existing supplies. This assures the public of a quality product."

Ravarino pointed out that the association merely recommended the 50-50 blend, and that any individual action taken by member firms was entirely voluntary.

"Contrary to being anti-competitive, this action has guaranteed the continued production of a quality product and avoided the otherwise disastrous consequences to the industry as a whole, including the grower, the miller, and the general public," he added.

He pointed out that the Department of Agriculture as well as Congress were made fully aware of the need for an adequate supply of durum wheat last year, and steps have now been taken to insure as far as possible that such shortages will not recur.

The Association has retained attorney Edward H. Hatton of the Chicago firm Thompson, Raymond, Meyer & Jenner to represent it. He will appear at the preliminary hearing to be held in Washington October 10.

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## MACARONI MAKES THE MENU

**O**CTOBER brings a crispness to the air, colorful foliage to the countryside—and National Macaroni Week! This year the special week is October 18-27. Actually, any week is Macaroni Week, for there is a macaroni product suitable for serving with almost any other food, and there is a way to serve some kind of macaroni in almost any meal.

Macaroni can make the menu whether the occasion calls for hale and hearty food, something exotic, or a culinary lip-smacker for the calorie counter. In fact, more than one objective can be met as the next three menus adequately illustrate. All are low in calories but have all the appeal of fine eating.

Farmhouse Macaroni Dinner menu calls for Homey Salad—one-half of a small sliced tomato with one-half teaspoon commercial French dressing—a small orange for dessert, and black coffee. Total calories: approximately 548. The macaroni recipe follows for four servings.

### Farmhouse Macaroni Dinner

- 1 tablespoon salt
- 3 quarts boiling water
- 2 cups elbow macaroni (8 ounces)
- 2 teaspoons butter or margarine
- 1 medium-sized onion, sliced
- 1 clove garlic, finely chopped
- $\frac{3}{4}$  pound ground beef round
- 1 tablespoon chopped canned pimiento
- $\frac{1}{2}$  cup canned red kidney beans
- 1 cup cooked peas
- Salt and pepper to taste
- 2 tablespoons grated Parmesan cheese

Add 1 tablespoon salt to rapidly boiling water. Gradually add macaroni so that water continues to boil. Cook uncovered, stirring occasionally until tender. Drain in colander.

Meanwhile, melt butter or margarine; add onion, garlic and beef. Cook until beef is browned, stirring occasionally. Add macaroni, pimiento, kidney beans, peas and salt and pepper. Mix well and heat to serving temperature, stirring occasionally. Sprinkle with cheese.

### Fancy Fare

Here is a spaghetti combination that is low on calories but long on appetite appeal. The menu calls for a four ounce glass of chilled tomato juice with lemon wedge, Lobster and Spaghetti, red and green cole slaw—portion is two-thirds cup with boiled dressing—four small radish roses, one ounce Camembert cheese with three

saltines, and coffee. Total calories: approximately 550.

### Lobster and Spaghetti

(Makes 4 servings)

- 1 tablespoon salt
- 3 quarts boiling water
- 8 ounces spaghetti
- 10 small sprigs parsley
- 1 cup diced cooked lobster
- 2 tablespoons butter or margarine, melted
- Salt and pepper to taste

Add 1 tablespoon salt to rapidly boiling water. Gradually add spaghetti so that water continues to boil. Cook uncovered, stirring occasionally until tender. Drain in colander.

Meanwhile, sauté lobster in butter or margarine until lightly browned. Combine spaghetti, lobster, parsley and salt and pepper to taste. Toss lightly.

A Noodle Drumstick Dinner is accompanied by Bermuda onion and cucumber salad with sour cream and parsley, calling for one-half medium-sized sliced onion, four slices of cucumber an eighth of an inch thick, a tablespoon of sour cream and a small sprig of parsley. Dessert is a cantaloupe half with black coffee or tea. Total menu contains approximately 550 calories per serving.



A hearty buffet treat for football fans.

### Noodle Drumstick Dinner

(Makes 8 servings)

- $\frac{1}{4}$  cup all-purpose flour
- $\frac{1}{2}$  teaspoon salt
- $\frac{1}{8}$  teaspoon pepper
- 8 medium sized chicken legs
- 2 tablespoons salad oil
- 2 cans (8-ounces each) tomato sauce
- 2 cans (4-ounces each) sliced mushrooms
- $\frac{1}{2}$  teaspoon basil
- 2 teaspoons onion salt
- 2 table-poons salt
- 4-6 quarts boiling water
- 1 pound medium egg noodles (about 8 cups)

Combine flour,  $\frac{1}{2}$  teaspoon salt and pepper; mix well. Dredge chicken legs with flour mixture. Cook in oil until browned on all sides. Cover and cook over low heat 30 minutes, or until tender.

Combine tomato sauce, drained mushrooms, basil and onion salt; mix well and heat to boiling point. Simmer 10 minutes.

Meanwhile, add 2 tablespoons salt to rapidly boiling water. Gradually add noodles so that water continues to boil. Cook uncovered, stirring occasionally, until tender. Drain in colander. Turn noodles out on serving platter. Arrange chicken legs in spoke fashion over noodles; top with sauce

But we are all not calorie counters. If you spend an afternoon cheering for your team from the sidelines, you may have a mammoth appetite. Let the convivial spirit linger on after the game, and ask friends home for supper.

No trouble, if there is a hearty dish waiting for heating and eating. Spaghetti casseroles score on such occasions. Put them together before the game, heat and serve after with a minimum of attention. A big salad, garlic bread and a freezer dessert complete an informal meal, easy on the hostess and guests alike.

Conjure up one of these Spaghetti Specials to pull out of your hat on the next Chrysanthemum Day.

#### Spaghetti Buffet (Makes 6 to 8 servings)

- 1 tablespoon salt
- 3 quarts boiling water
- 8 ounces spaghetti
- 1 2/3 cups (large can) undiluted evaporated milk
- 1/2 teaspoon salt
- 1 1/2 teaspoon dry mustard
- 1 tablespoon steak sauce
- 2 cups (about 8 ounces) grated process-type American cheese
- 2 7-ounce cans solid-pack tuna, drained
- 1 cup creamed cottage cheese
- 1/2 pound Swiss cheese, sliced

Add 1 tablespoon salt to rapidly boiling water. Gradually add spaghetti so that water continues to boil. Cook uncovered, stirring occasionally, until tender. Drain in colander.

Meanwhile, simmer evaporated milk, 1/2 teaspoon salt, mustard and steak sauce in saucepan over low heat to just below boiling (about 2 minutes). Add American cheese; stir over low heat until cheese melts (about 1 minute longer). Break tuna into pieces. Add tuna to cheese sauce; mix well. Arrange layers of spaghetti, tuna-cheese mixture, cottage cheese and Swiss cheese in greased shallow baking dish. At serving time, bake in moderate oven (350 degrees) 30 minutes.

#### Sales Gain

The Food Field Reporter in their annual survey on What Customers Spend For All Products Sold at Food Stores report macaroni sales at \$340,120,000 in 1961, a gain of 3.6 per cent over the previous year.

Spaghetti accounted for \$128,820,000; macaroni, \$107,420,000; noodles, \$92,120,000.

Sales in combination grocery stores accounted for 68 per cent of total domestic consumption.

## Avoid These Dieting Mistakes

**W**HETHER you are dieting, or only flirting with the idea, your chances of success will be much greater if you avoid the 10 most common dieting pitfalls. If you have backslid from previous diets and given up in disgust, the odds are that you fell prey to one or more of these mistakes. But take heart—you can learn to reduce much more than your margin of error! Here are the mistakes—plus suggestions as to what to do about them:

**1. Failure to set an objective.** Do you know exactly how much you want to lose—and how much you should lose? Too many dieters do not. Vague goals lead to quick discouragement. A good idea: set a long-range goal and break it down into smaller goals, rewarding yourself with some non-food luxury, a "prize," for each three-pound weight loss.

**2. Setting an unrealistic goal.** "Five pounds off over the weekend" is not only dangerous but futile; after two days of self-torture, you will start to gain as soon as you raise your calorie count above starvation level. Unless your doctor tells you otherwise, you are probably safest trying to lose only one to three pounds a week.

**3. Failure to consult a doctor.** Can the doctor really do anything for you that you cannot do yourself? Plenty! If he decides that an appetite-suppressant will do you some good, he can prescribe one that is safe and effective, with few side effects. He can help you plan a good, nutritious diet built around your own food likes and dislikes. He will tell you what weight is ideal for your health, and whether you have any ailments that will affect your reducing program.

**4. Improper self-medication.** According to medical testimony before a Congressional subcommittee, many patent medicines and "reducing aids" are completely worthless. One wifer said to curb the appetite contained only powdered skimmed milk, a little lemon juice, and some vitamins! Many other patent preparations are dangerous to those with heart disease, high blood pressure, diabetes, and thyroid or intestinal ailments.

**5. Cutting out needed nutrients.** Fad dieters are almost certain to do this; one New York fad dieter was recently hospitalized with the first case of scurvy seen by local doctors in 50 years! But even a more sensible dieter may fail to include all the necessary vitamins in his reduced intake—particularly if his diet was not prescribed by a doctor. For insurance, take one vitamin pill daily.

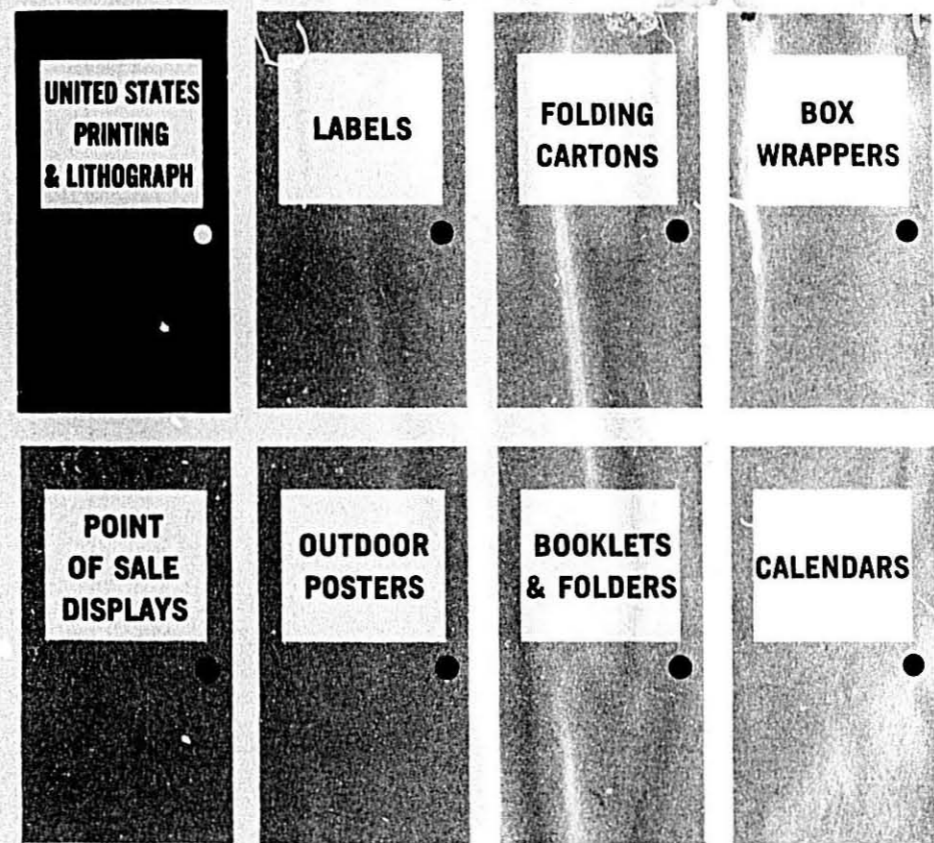
**6. Cutting out food enjoyment.** Must you give up salad dressing? No! Several delicious low-calorie dressings are available. One brand, for instance, Wish-Bone, now has a French style dressing that contains only two calories per teaspoon, and an Italian dressing that has only one! Is it necessary to ban butter from the table? No—use half a pat instead of two or three. If you cannot do without ice cream and cakes, don't! Low-calorie versions, including ice milk, are available at most supermarkets. Dieting should not be grim—or it soon will not be dieting.

**7. Relying exclusively on exercise.** People who have only a few pounds to lose are especially prone to this reducing error. Exercise does burn up calories—but to shave 600 calories off your daily intake by exercise alone, you would have to ski an hour a day . . . swim two and a half hours . . . walk six—to say nothing of the resulting appetite you would get!

**8. Ignoring the value of exercise.** A prominent psychiatrist found that women of normal weight were more apt to try to work off the blues than his fat patients, who were more inclined to sit around and mope when they felt depressed. He found that the slim women walked an average of 20 miles more a week than the heavy ones. Draw your own conclusions!

**9. Falling prey to common excuses.** "It must be my glands," say millions of fatties—yet glandular overweight accounts for only a tiny percentage of our national excess poundage. "I'm not getting enough nourishment," moan others—but if you are on a well-balanced, medically-approved diet, you have to be. And if you have really cut down your intake, it cannot be true that, "I'm not losing weight." The final common excuse speaks for itself: "It won't hurt to go off the diet just this once!"

**10. Gaining back the lost weight.** Half the former dieters in a recent Gallup survey admitted gaining back the weight they had lost. Yet, according to Dr. Howard Aaron, "marked and repeated fluctuations in weight are more dangerous to health than a constant state of slight or moderate overweight." Ask your doctor how many calories you will need to maintain you at your best weight. You can go on occasional sprees—as long as you stay within the daily calorie count. But it is important to realize that you may have to change some of your eating patterns for keeps.



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## National Macaroni Institute Report

by Theodore R. Sills, Public-Relations Counsel

AT THE Annual Meeting, Ted Sills in a slide presentation showed graphically the type of publicity macaroni, spaghetti, and egg noodles receive through National Macaroni Institute efforts. Highlights of the text follow:

Why do we gather clippings? Not just for a scrapbook, but as a selling tool to broaden and strengthen your own promotional efforts. All of the clippings provide motivation—or sales messages. They give the consumer a reason or reasons to buy your product.

We tell the consumer that macaroni products are versatile on her menu; economical for the budget; convenient to use; good to eat; good for her family. And we are getting these sales messages through in a wide variety of media.

### Consumer Appeals

Let us see as an example how this works in newspapers:

Stressing versatility, the San Francisco Chronicle headlines "Macaroni fits nearly every cuisine." Other headlines: "Noodles with fruit" and "Macaroni good with any meat." Syndicated Pacific Coast Dailies say: "Macaroni offers wide choice to cooks."

Now for economy, the Buffalo Courier Express suggests that "Macaroni dishes are thrifty to serve." Down in Fort Worth, the Star Telegram says "Macaroni Tuna Economical Dish." "Stretch budget with macaroni" says the Roanoke, Virginia Times, while the Dallas News suggests macaroni for the budget in penny-watcher menus.

Plugging the convenience theme, the Lexington, Ky., Leader stresses ease of preparation and describes macaroni as a teen-age satisfier. The New York World Telegram and Norfolk, Va., Virginian-Pilot emphasize quick meals with macaroni. We received a number of syndicated breaks stressing convenience, like Edith Barber of General Features (circulation 4,000,000) and Ella Elvin, New York News Syndicate; King Features and United Press International.

The tasty and nutritious themes are emphasized with headlines like "Macaroni is tasty and nutritious" and "Chili Beef on Noodles will delight diners." Both the New York News syndicate and King Features hit the tasty and nutritious themes. "Hearty macaroni is ideal hot weather fare," says another headline. Dayton says "Tuna-Noodles Delicious."



Theodore R. Sills

### Dramatic Color

Nationally distributed Sunday Supplements, independent Sunday magazines, and daily newspapers use color to dramatize the appetite appeal of macaroni dishes. The New York Herald Tribune offers Macaroni Skillet for use with outdoor barbecues. Another feature they had was with macaroni salad and casseroles. The Salt Lake City Tribune used a story on macaroni economy with colored illustrations.

The Miami News displays macaroni products with large color illustrations.

Mary Meade in the Chicago Tribune punches home our message in two stories on spaghetti with fish and seafood. Buffalo pushes macaroni economy in color, while the Atlanta Journal and Constitution Sunday magazine has colored features on macaroni dishes.

Down in San Antonio, the Express offers a macaroni skillet and salad in a half-page color photograph. Big features in full color are carried in the Newark News, Nashville Tennessean, and Daily Oklahoman.

In the syndicates, some 64 breaks represent total circulation of more than 600,000,000.

Frank Kohler's General Features Skillet Club promotes Chili Mac, while Gaynor Maddox features pork and noodles. Edith Barber again and Ella Elvin of the New York News Syndicate stress convenience.

There were other breaks from the Bell Syndicate and the United Press

International, typical of the syndicated material sent to many, many daily newspapers.

Nationally syndicated Sunday Supplements add their powerful messages for macaroni promotion. Family Weekly had two separate stories for a circulation of more than 5,000,000 each. Three other Sunday Supplements provided eight more stories with 77,000,000 circulation.

### Special Markets

Magazines exert a powerful influence on consumer buying habits, and macaroni rated breaks in 60 magazines covering women's magazines, shelter, teenage, romance, Spanish, Negro, Canadian, and special interest publications. For example, a Family Circle feature was on a low-calorie diet with macaroni mentioned. McCall's did a clever feature on a spaghetti casserole. American Home did well by macaroni.

In addition to mass media, we aimed our messages at specialized markets, such as the Negro market—10,000,000 strong—with greater and greater buying power which is reflected in food sales. Negro newspapers and syndicates are telling the macaroni story. The Chicago Defender described it in the headline "For budget-easy-nutritious tempting meals, try elbow macaroni, spaghetti." And the nationally distributed Negro magazine Ebony used macaroni on its food pages.

Spaghetti in Spanish is featured in the all-Spanish language monthly magazine, Temas.

To the labor press went a release on spaghetti with lamb sauce. To the teenage market through the "romance" magazines are the following examples: Revealing Romances story "Something Special with Spaghetti" begins with "easy on cook and easy on budget are recipes featuring macaroni, spaghetti and egg noodles."

Forecast, widely used by a key professional group of home economics teachers—for their own information and for classroom teaching. Our selling messages help form permanent consumer buying habits.

The farmer gets the word on macaroni through farm publications. We are reaching teenagers through our school program, backed up with advertising in "What's New in Home Economics" for October, 1961, offering a recipe leaflet. Twenty thousand of

(Continued on page 20)

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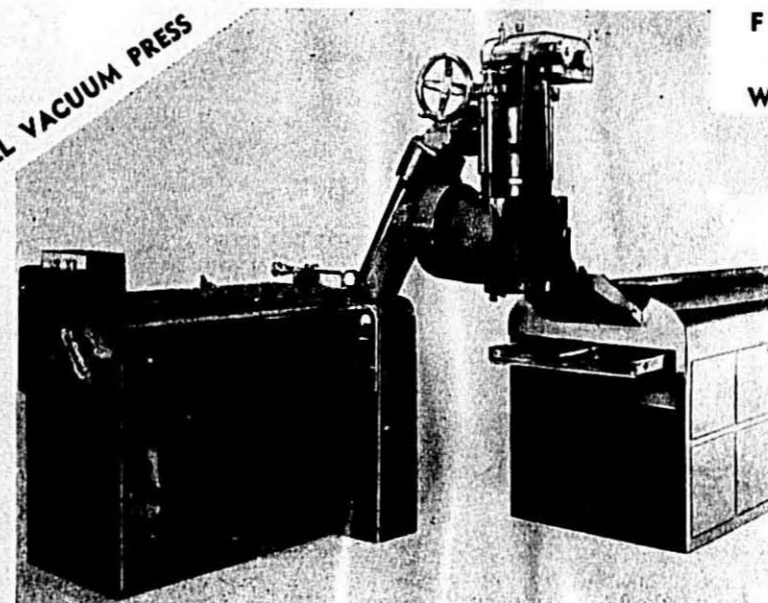
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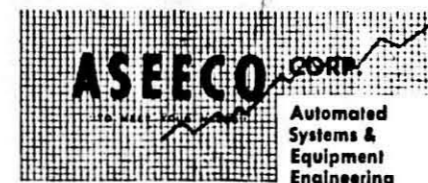
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# Projects of the Durum Wheat Institute

by H. Howard Lampman, Director, Durum Wheat Institute

THOSE of you who attended the mid-winter meeting in Miami may recall that the Durum Wheat Institute submitted five projects for your consideration and approval. Later, these five projects were described in the March issue of the Macaroni Journal, and you were then asked to vote on your preference by mail.

Quite a number of you responded, and some of your members took the extra trouble to write a letter or comment. Perhaps you will be as surprised (or maybe you won't) as we. The majority agreed pretty well on one project—but the vote split on the other four—and balanced out to a point where the choice was left pretty much up to the judgment of the Durum Wheat Institute Committee and Bob Green. But perhaps you were more than clever, after all, because the durum millers decided to undertake not one but three projects!

### Three Good Ideas

First—the most popular idea: A macaroni product demonstration outline for use in food classes—in home economics, home demonstration and extension classes, 4-H clubs, and the like. Here is the cover design we showed you last January. We will produce the demonstration outline first in mimeograph form to get your reaction and the comment of teachers. We hope to have this new publication in your hands by the time we meet again next January. This outline will suggest the use of your products by specific brand name. It will give you another chance to work with students, teaching them the many advantages of macaroni foods—your products.

The second project approved by your voting members and the durum millers: A small, inexpensive leaflet. Here is the cover design. This second project is an outgrowth of the first, because we need an inexpensive leaflet of this type to distribute in quantities to food classes along with the demonstration outline. The price could be brought down perhaps to a penny each, so the cost of the leaflet should not stop anyone. Here again, we hope to have the printed piece in your hands by next January. The leaflet will offer space on the back cover for your brand-name imprint. Use of the leaflet is not limited to schools. You will be able to make whatever distribution you wish.



H. Howard Lampman

And now the third project: If Macaroni grew on a bush or a tree, or if it grew on the hoof across the farm lands of America, we would not need this project. But it does not. This is a project to make macaroni dishes more available to 14,000,000 boys and girls in 64,000 schools participating in the Federal school lunch program.

### Big Market

That is a big market in itself—14,000,000 children with big appetites. But even bigger is another 18,000,000 school children whose lunches more or less follow Federal standards. This is not to say that macaroni foods are not already used on a limited extent in school lunches. But it is almost on a bootleg basis. Certainly the absence of enriched macaroni dishes in the list of foods required for Type A school lunches is a barrier to our free entry into this market and the chance not only to feed school children but to keep them as consumers of macaroni foods as they grow up. The school lunch system is both an immediate market of considerable dimension, as well as a sampler market for tomorrow.

Let me lead you the requirements for school lunch pertinent to our problem: "Two ounces (edible portion served) of lean meat, poultry or fish; or two ounces of cheese; or one egg;

or one-half cup of cooked dry beans or peas; or four tablespoons of peanut butter; or an equivalent quantity of any combination of the above-listed foods. To be counted in meeting this requirement, these foods must be served in a main dish and one other menu item."

School lunch people can substitute macaroni, if they wish, for bread. But as a main dish that stands on its own feet nutritionally, macaroni does not count in the Type A school lunch.

Tomorrow morning (July 13) at 10 a.m., we—the macaroni manufacturers, durum millers, and durum growers—are going to make a project out of the Type A school lunch.

We have a committee comprised of Robert M. Green, director, National Macaroni Institute, Clete Haney, Vice President, Skinner Macaroni Company; Mark W. K. Heffelfinger, vice president, Russell Miller-King Midas Mills; David Bartholomew, Domestic Marketing Division, Great Plains Wheat, Inc.; Margot C. Jeland, Director of Home Economics, Wheat Flour Institute; and myself, to talk over this problem with Mr. Howard P. Davis, Director of the Food Distribution Division of the Agricultural Marketing Service, O.S.D.A., and his staff. The long name spells "school lunch." We have a simple but convincing story for Mr. Davis and his staff. I hope we tell it with such strength and vigor that it is irresistible.

### Cooperative Efforts

On this school lunch project you have another example of how we all work together—durum growers, durum millers, macaroni manufacturers. The people I work for want it that way. You know them all very well: Amber Milling Division, G.T.A.; ADM-Commander Larabee Mills; Doughboy Industries; General Mills; International Milling Company; North Dakota Mill & Elevator; Russell Miller-King Midas Mills.

We are working with you on the distribution of the film "Durum . . . The Standard of Quality." We will work with both you and the durum growers on the new demonstration outline and recipe leaflet as we have worked together on the materials you already have in your library of promotional tools.

The Durum Wheat Institute has provided copies of the filmstrip, "Tricks" (Continued on page 20)



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# Rheological Studies of Durum Semolinas

by Dr. G. N. Irvine, Grain Research Laboratory,  
Board of Grain Commissioners for Canada, Winnipeg, Canada

IN A recent publication from this Laboratory (1), a new technique for using the farinograph in the characterization of durum semolinas was described. This procedure allows the measurement of dough development time, maximum consistency and tolerance index to be made at absorption levels corresponding to those used in commercial continuous macaroni processing; rheological behaviour of macaroni doughs at this absorption level is very different from that at the absorption level normally used in making farinograph or extensograph tests. The influence of various factors on the curve parameters was discussed in that paper and it is the purpose of the present work to further develop some of the possibilities suggested by the earlier work, for application of the technique in characterizing the rheological properties of semolinas for commercial continuous macaroni processing.

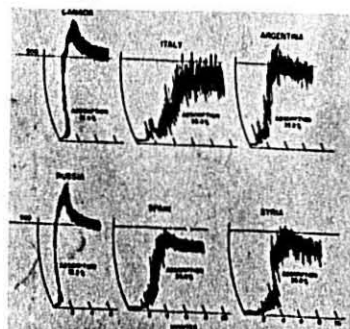


Fig. 1.—Farinograms at processing absorption and 30 degrees C for a number of durum wheats of differing origin.

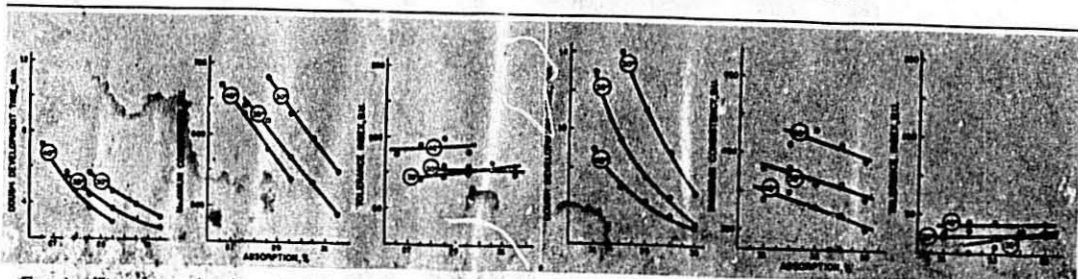


Fig. 2.—Farinograms at processing absorption and 30 degrees C for three durum varieties grown under a similar environment in Canada.

**Effect of Environment**  
The wide difference in curve characteristics of semolinas milled from durums of different origins are shown in Fig. 1. These were all milled on the same mill and so the particle size range is the same for each; the absorption at which the curves were made corresponds to a satisfactory processing level, the differences would be much greater if all had been done at the same level. The Canadian and Russian durums show similar absorption characteristics giving curves of similar type at 31.5 per cent; the other types all require a higher absorption, and even at 35 per cent, dough development time is quite long.

The behaviour of semolina doughs in the farinograph at these absorption levels is somewhat analogous to their behaviour in continuous processing equipment. The dough development time corresponds to the balling up phase in the continuous mixer and the behaviour following the development of maximum consistency shows the reaction of the dough to shear stress, such as is encountered in the kneading

worm and in the extrusion head. Farinograms such as those exhibited by the Canadian and Russian durums would suggest, if this analogy is valid, that these doughs show more desirable flow characteristics for continuous processing.

**Effect of Variety**  
Some of the differences between the farinograms of Fig. 1 can be attributed to differences in variety and are not wholly the result of the different environments. Figure 2 shows farinograms of three durum varieties grown in Canada and somewhat similar differences to those of Fig. 1 exist between the varieties Stewart and Ramsey on one hand and the variety Pellissier on the other. The variety Pellissier is normally a component of our grade Extra No. 4 C. W. Ambur Durum and so this grade tends to reflect this type of rheological behaviour to some extent.

Fig. 4.—The dynamic characteristics of a Taganrog durum semolina showing the relation between temperature, absorption and farinogram parameters.

## Dynamic Presentation of Farinogram Parameters

In addition to reflecting the effects of environment and variety, the farinograms are also, of course, influenced by particle size of semolina, absorption and temperature. Because of this, the rheological properties are best assessed from the dynamic behaviour of the dough and not from single farinogram curves. Such dynamic behaviour is illustrated in Fig. 3 which shows dough development time, maximum consistency and tolerance index as functions of absorption and temperature for a semolina milled from Canadian durum. From such curves the relation between the absorption and the temperature required for a constant dough development time may be determined as well as the corresponding variations in the maximum consistency of the dough and the change in consistency under shear stress (indicated by the tolerance index).

Such dynamic curves can be used to obtain a great deal of information about the effects of particle size distribution in semolina on rheological properties; these curves also dramatically illustrate differences in gluten quality such as exist between durums of different origin. Figure 4 shows the dynamic characteristics of a semolina milled from Taganrog durum; when compared with the Canadian durum semolina, it is seen that there is no level of temperature and/or absorption where the two semolinas exhibit similar rheological behaviour. Taganrog shows a high absorption requirement, with dough development time tending to be long and very strongly influenced by the absorption level; maximum consistency, on the other hand is low and varies very little with absorption or temperature. Canadian requires much less water, dough development time is less strongly influenced by absorption or temperature but maximum consistency is considerably more sensitive to both absorption and temperature.

Fig. 5.—Effect of blending Canadian and Taganrog semolinas; farinogram parameters for 30, 35 and 40 degrees C.



When blends of equal parts of two such semolinas are made the resulting properties are generally not an average of the two types, with the Canadian type having the greater influence on the rheological characteristics of the blend; this behaviour is shown in Fig. 5. Up to 20 per cent of semolina of the Taganrog type can usually be mixed with a Canadian type semolina without having a marked effect on the rheological properties.

## Influence of Particle Size

Since the introduction of continuous processing there has been a change from the use of coarse semolina to a considerably finer granulation. Figure 6 shows the farinograph characteristics of a coarse and a fine semolina, milled from the same wheat, at different absorption levels. For the fine semolina, the dough development time is shorter, the maximum consistency is greater and the decrease in consistency under shear stress is greater than for the coarse semolina. There is a strong indication that the rheological properties of a developed dough continue to reflect the size of the original semolina particles. For the fine semolina the tolerance index increases as absorption increases but the opposite is true of the coarse semolina. Experiments with various blends of coarse, medium and fine semolinas indicate that small percentages of coarse particles can have a marked effect on rheological properties while blends of medium and fine particles alone show little change in rheological properties over quite wide variations in their respective ratios. Such evidence would emphasize the great importance of homogeneity of particle size in achieving uniform rheological behaviour, with the optimum particle size probably being toward the fine semolinas.

## Effect of Salt

Small percentages of common salt were often added to macaroni doughs when processed by the batch equipment; with continuous equipment this practice seems to have died out. One per cent of salt has a very profound

effect on the rheological properties of macaroni doughs as is indicated in Fig. 7. Dough development time, especially at the lower absorption levels, is drastically increased while maximum consistency and tolerance index are considerably reduced. In the example shown here, the semolina was milled from Canadian durum and the general effect of the salt is to change the rheological behaviour in the direction of that exhibited by the Taganrog type. This behaviour suggests that controlled additions of salt in continuous processing might offer a convenient means, in addition to variation of absorption and temperature, for controlling the rheological behaviour of macaroni doughs. It also raises the question of how much influence the properties of the local water supply may have on the processing characteristics of semolinas.

## Effect of Rheological Properties on Color

The rheological behaviour of macaroni doughs can exert a profound influence on the appearance of the macaroni, usually reflected in the surface characteristics. In addition to this, however, there is an indication that macaroni doughs having a low tolerance index, lose more pigment per unit of lipoxidase activity than doughs having a higher tolerance index. The data of Fig. 8 are representative of a wide range of durum wheats and while the correlation is not too strong, there is nevertheless a good indication that some relation exists between processing. This might be expected from earlier work in this laboratory which related pigment loss to the homogenizing action of the mixing and extrusion phases of macaroni processing.

## Discussion

In the batch system of macaroni processing each step in the process is under the control of the operator; water content, mixing time, kneading

(Continued on page 30)

Fig. 6.—Effect of particle size of semolina on farinogram parameters at varying absorptions and 30 degrees C.



Fig. 3.—The dynamic characteristics of a Canadian durum semolina showing the relation between temperature, absorption and farinogram parameters.

# WHERE TOP PERFORMANCE COUNTS

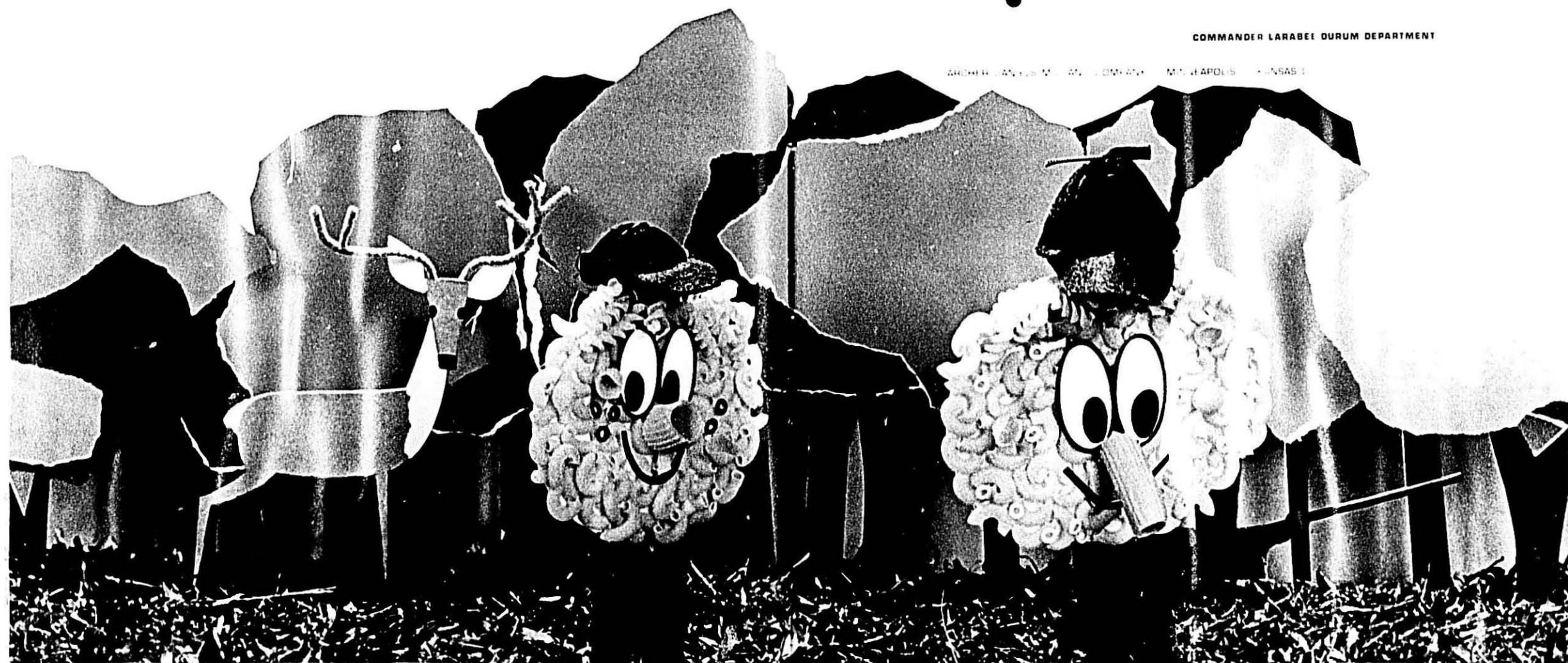
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COMMANDER LARABEE DURUM DEPARTMENT

ARCHER DAN M... W... COMPANY... M... J... KANSAS



### NMI Report—

(Continued from page 12)

them have been sent out to date and requests are still coming in from teachers and schools.

#### WAIF Dinners

As a special campaign, WAIF Spaghetti Dinners were promoted in May. Hermione Gingold, actress and TV personality, serves a WAIF Spaghetti Dinner to Mr. and Mrs. Gus Karey of Oklahoma City, their daughter, a former WAIF and their new son Demetrios, the 10,000th WAIF.

Radio and television spot announcements and food shows pushed the WAIF Dinners. It was front page news in the Chicago Daily News. It was a headline story on the editorial page of the Christian Science Monitor. Another spaghetti dinner story went nationwide with the American Legion magazine.

Jane Russell, national president of WAIF, appeared on the Tonight show for national network television. Her picture and stories on WAIF were carried in papers across the country.

Governors in 15 states proclaimed: "May is WAIF Month."

Groups requesting WAIF kits included veterans' organizations, church groups, Jaycees, women's clubs, teen clubs, sororities and fraternities, YMCA, YWCA, Eastern Star, union locals, and requests are still coming in.

#### Macaroni Week

National Macaroni Week, 1961, stressed convenience in its theme "MMM—Macaroni Meals in Minutes." A few of the results of placements with newspapers were shown, along with other media representing a concentrated, coordinated program on convenience.

"Macaroni Makes Your Menu" is the theme for 1962 Macaroni Week. Versatility receives emphasis this year. Along with sales message, recipe and photos, all media will be supplied with menus featuring macaroni products. A clear illustration of how a macaroni product fills the need for any type of meal, any course in the meal, will be made. Food editors are using menus more and more in their columns to provide greater service to their readers. This year more special material, including photographs with Negro models, will be developed for the Negro market.

Target, Teens! Again we will be reaching teens through an advertisement in Practical Home Economics in the October issue this year. This publication reaches 45,000 home economists and 600,000 students in home economics classrooms.

#### Food Editors Conference

The National Macaroni Institute will be represented at the Food Editors' Conference to be held at Waldorf Astoria in New York City September 17-21.

Macaroni gift packages are planned for food editors of magazines, Sunday Supplements, and syndicated food columns. This gift plan is to begin immediately as the first step in the program for the 1963 calendar year when the theme will be "Macaroni with Foods of the Month." All material supplied to all media will be carefully coordinated with the Plentiful Foods List of the United States Department of Agriculture. One gift package containing variety of macaroni products will be supplied at three-month intervals—one for each of the four seasons. With each package will go recipes, menus, and suggestions of how to make the most effective use of Plentiful Foods by combining them with macaroni, spaghetti, or egg noodles.

#### DWI Projects—

(Continued from page 14)

and Treat . . . with Macaroni Foods," for distribution by the National Macaroni Institute to home economics classrooms across the country. In addition, we mail regularly five times a year the bulletin "Durum Wheat Notes" to more than 42,000 home economics classroom teachers, home demonstration agents, food editors, and similar leaders.

#### Economical Gourmet Entrees

You remember the special booklet of institutional recipes, "Economical Gourmet Entrees," now available at 50 cents a single copy or \$30 per hundred copies. Enough has already been said about this publication and its value in sales promotion work. Earlier in your meeting mention was made of the importance of the restaurant market. "Economical Gourmet Entrees" is your introduction to that market.

As an outgrowth of "Economical Gourmet Entrees," another project brought us the same recipes in household size under the title "Specialties of the House." The wheat grower organizations bought and distributed more than 150,000 copies of this booklet. Our volume print order to fulfill the demand they created has brought the price of this booklet down to 10 cents a copy in quantity. And as with other booklets, there is space provided for your imprint.

#### Durum Foods Wall Chart

And finally, just completed is the classroom chart: "Durum Macaroni

Foods—From Farm to Table." The chart may be mounted, as you see it here, for the additional cost of about 80 cents each, if we purchase sufficient quantities to bring the price down. Mounted in this fashion, the chart would become almost a permanent teaching device in any classroom.

We have had considerable and highly favorable comment on the "Durum Macaroni Foods" chart from teachers and supervisors. It will tell your story to generations of boys and girls, if only you use it. The price per chart in quantities of 100 and more is just 31 cents. It folds in half for easy mailing. Laminated plastic protects the surface. Certainly it is worth 31 cents to get your story told in the classroom where boys and girls each day learn things that contribute to their food likes and dislikes, contributing to their later eating habits as adults and buyers with a choice between your products and another kind of food.

#### Market Test

We have thought a good deal about how to stimulate additional use and circulation of these materials. The value of the materials to you has already been demonstrated several times. But subject to the approval of the members of the Durum Wheat Institute Committee and the National Macaroni Institute and the durum growers, I would like to propose a new kind of test. Here again, we will work with you to determine, in terms of attitudes toward your product and perhaps actual sales, just what these materials will do for you.

Perhaps with the help of Bob Green and the durum growers represented by the North Dakota State Wheat Commission, we can select a small city. We could devise a test to determine student knowledge and student attitudes on durum macaroni products. We then could introduce the materials into classrooms, and work with them in other ways—in clubs and demonstration. The proposed new "Macaroni Product Demonstration Outline" would fit ideally into such a situation. With the help of local manufacturers or distributors, and others interested in the project, we might also check on sales of brand-name products. We could be sure of one thing. We would have a town completely saturated with the durum macaroni idea, and that in itself might be worthwhile, if only to see what would happen.

Anyway, that is the final suggestion. It needs a good deal more refinement. It needs discussion. Above all, if everyone approves, it would need everyone's active cooperation and help.

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## Trends in the Macaroni Industry

by Dr. Charles Hummel at a meeting of the British Macaroni Industries

IT IS not always easy to distinguish between an authentic trend and a mere passing fancy. A trend may have a purely statistical background, it may be reasonable, at its best it will be both.

### Raw Material

Starting with the raw material of pasta, there is no doubt that semolina made from amber durum wheat is the best raw material to be used. Although it is not always easy to show it, consumers decidedly prefer pasta made from amber durum semolina. During 1954-1955, when amber durum crops failed in the U.S.A., and pasta had to be made from blends containing a high percentage of hard wheat, consumption per head dropped by about 10 per cent. Only, as pasta was made again from amber durum semolina, did the consumption slowly go back to its previous level, and resumed its increase.

A well-known Italian pasta manufacturer introduced as a matter of policy a selective buying program of durum wheats, and gets almost 10 per cent more for his spaghetti made from choice amber durum semolina, as compared with the price asked for by most of his competitors.

A further raw material for pasta which is of increasing importance are eggs. It is known that in America, noodles, if not otherwise specified, are egg noodles.

Pasta, to which eggs have been added, is particularly popular in Germany and Switzerland.

The production of egg pasta, which a few years ago was insignificant in France and Italy, is increasing steadily in these countries. Many Italian manufacturers, who, a few years ago would not think of producing egg pasta, are now selling increasing amounts.

As egg pasta commands a higher price and leaves more profit, manufacturers who have started to produce egg pasta are trying to increase their production. In Germany and Switzerland, where a manufacturer could not stay in business if he does not produce fair quantities of egg pasta. As egg pasta is gaining popularity a similar development may be expected in other countries.

### Spaghetti and Specialties

Shapes: Even outside Italy, spaghetti are getting more and more



At a British Macaroni Industries Meeting: left to right—Dr. M. C. Schaul, Chelsea Flour Mills; Dr. Andersen, Canadian Board of Grain Commissioners; Dr. Charles Hummel, Buhler Brothers, Uzwil, Switzerland; Charles Hoskins, U.S. Consultant.

popular. These noodles, which can now be made in the shape of "nests," are being produced in increasing quantities. In this shape, the noodles will stand handling and transportation well, and they are very convenient to use. An increased production may be expected, although the packing of "nests" is a problem which has not yet been solved economically.

Lately, special shapes have been developed which can be eaten cleanly and comfortably, and to which the sauce will adhere well. Such shapes offer real advantages to the consumer, and should meet with growing interest. For example, a well-known firm started with such a shape a few years ago, and thanks to first-class quality and clever advertising, is now selling over 20 tons a day of just this one shape.

### Technologically Speaking

From a technological point of view little is to be said—bulk handling of semolina, continuous extruders, Vacuum, Teflon, etc., are generally accepted. Production units with automatic controls are being used more and more widely.

The general trend goes to large extruders and corresponding continuous driers with short drying cycles, accurately and automatically controlled,

and with mechanical handling of the dried short and long goods as they leave the drier. It is now possible to install a completely automatic plant from the semolina intake to the finished packed pasta.

Important technological changes are not to be expected in the next years—any such change would not bring substantial reduction in manufacturing costs, as these can already be kept fairly low.

However, handling and storing in bulk will be completely mechanized within the next few years, and this will include long goods, such as macaroni and spaghetti. Mechanical stacking and storing of the finished boxes is also coming. This will be one of the most labor and space saving developments.

### Distribution

Distribution: Self-service shops and supermarkets have come to stay. On the Continent, about 15,000 self-service shops operated in 1957, in 1960 more than 36,000 had been established. In Scandinavia one self-service shop operated for about 1,700 inhabitants in 1959, in Switzerland for 3,600 inhabitants.

It is expected that by 1970 50 per cent of all food will be sold in self-

(Continued on page 26)

## Pasta in Convenience Foods

by Charles M. Hoskins at a meeting of the British Macaroni Industries

IN THE United States servants are almost unavailable, many women work and those women who do not work do their own housekeeping. In addition, these women take part in civic and church activities which use much of their time. Therefore, time is of extreme value to the American housewife.

This has resulted in the growth of convenience foods which are essentially meals or parts of meals which are partially prepared in a factory and are easily made into a finished dish.

**Canned Spaghetti.** The most convenient of the macaroni products is canned spaghetti because this product is prepared by opening a can, pouring the contents into a saucepan and heating for approximately 5 minutes. Only one dish is made dirty, complete elapsed time in preparing the dish is only the opening of the can and the taking of the saucepan out of the cupboard. Because of convenience this food has increased in use faster than the macaroni industry as a whole. Furthermore, the trend has been away from plain spaghetti in a can and toward spaghetti with meat balls in a can.

The nearest comparable convenience is canned pork and beans. The consumption of this product is considerably greater than that of canned spaghetti, although I believe that canned spaghetti is more nearly a complete meal. I believe that if the canned product were more firm it would be more desirable and that consumption would increase above its present level. I further believe that canned spaghetti is chiefly a convenience food for lunch or light meals where time is important and elegance is at a minimum.

**Packaged Spaghetti Dinner.** An important macaroni convenience food is Chef Boy-ar-Dee Spaghetti Dinner containing a can of tomato sauce, a small can of grated cheese and 7 ounces of spaghetti in a box all contained in a single carton. To prepare this meal the sauce is heated in a saucepan, the spaghetti is boiled in water and then the water is drained in a colander. The spaghetti and sauce are combined and cheese is sprinkled over all. This requires about 15 minutes of elapsed time. It dirties two cooking pans and a colander and requires the opening of two cans and two boxes. The spaghetti is more firm than canned spaghetti and the cheese



Charles M. Hoskins

sprinkled on this dish lends a small measure of elegance so that the dish could be used for the major meal of the day for the family, but probably not for entertaining company.

**Macaroni and Cheese.** One of the most important macaroni dinners is Kraft Dinner consisting of dried elbow macaroni with a dried cheese sauce in a packet. The macaroni is boiled in water and then drained through a colander. Milk and the cheese from the packet are stirred into the cooked product in the saucepan. This product takes about 12 minutes to prepare and dirties one pan plus a colander.

**Soup mix.** There are several soup mixes consisting of dry noodles, a packet of dried flavoring and chicken fat, possibly in combination with some hydrogenated vegetable oils. This product can be prepared by opening the box of noodles, the foil pouch of sauce and combining with water in a saucepan. The time to prepare this dish is about 5 minutes and only one pan is dirtied. Great impetus has been given to this product by the entrance of Knorr into the American market with seven high quality soup mixes incorporating freeze dried products. This has stimulated Campbell to bring out a dried soup as well as their complete line of canned soups which now dominate the American market.

**Luxury Dinners and Specialties.** Recently Pillsbury and General Mills have come into the market with beautifully packaged casserole dishes which make a finished meal of great taste appeal. Pillsbury has a Golden Macaroni Casserole consisting of a screw-shaped macaroni product, a packet of cheese and dried bread crumbs. The

cheese is combined with water and the spiral macaroni product in a casserole and placed in the oven. When the product is nearly baked, the dry bread crumbs are sprinkled over the top and browned. Other Pillsbury products are a Savory Noodle Casserole and a Tomato Rice Casserole. These are packaged in cartons printed with a full color photographic representation of the finished dish.

General Mills has marketed a noodle casserole with a dried sour cream and cheese sauce called "Noodles Romanoff."

The cooking time of a casserole dish is from 30 to 45 minutes. The amount of working time is fairly low and the number of dishes dirtied varies from one to two. The main appeal of these dishes is that they taste very good and they are easier to produce than the equivalent made from original ingredients. They are quite expensive. The amount of advertising expenditure required is high and the expenditure to keep sales at a good level is less than the initial cost, but still higher than the cost for a standard macaroni product.

One unusual and popular specialty is Rice-A-Roni which consists of a dried packet of flavoring and a mixture of rice with pieces of spaghetti approximately 1/4 inch long. The rice and spaghetti mixture is fried and then water is added with the flavoring material and cooked until all of the water is absorbed.

**Conclusions.** Several things can be learned from the American experience with these convenience foods:

1. The extreme convenience of canned spaghetti has resulted in a great increase in the consumption of this product, particularly with meatballs. If the firmness of the spaghetti could be improved it is possible that it might be able to approach the consumption of canned baked beans. We do not believe that canned spaghetti is directly competitive with dried spaghetti products because we believe that the two products fill different needs of the consumer.

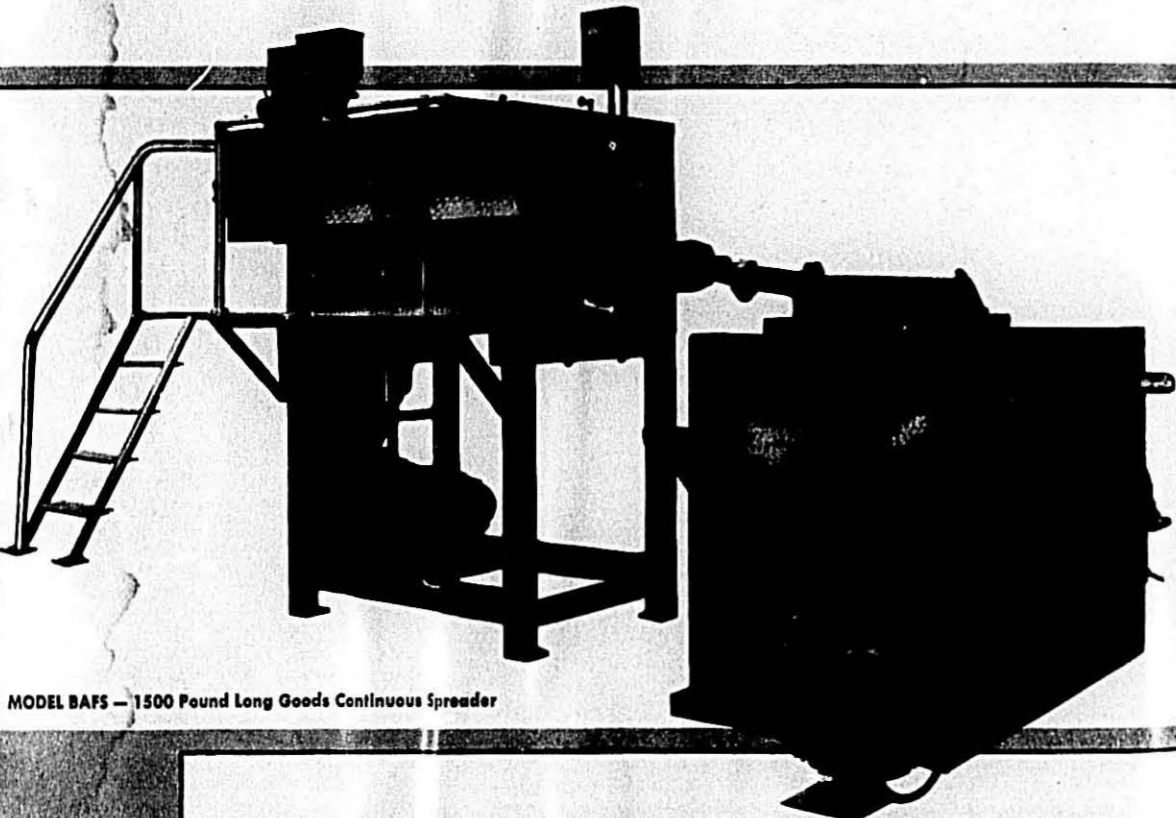
2. The dinners combining dried spaghetti or macaroni products with sauces have increased in consumption at a rate much greater than the dried macaroni products alone. This is probably due to convenience and to the fact that a cook who does not know how to prepare spaghetti dishes can

(Continued on page 26)

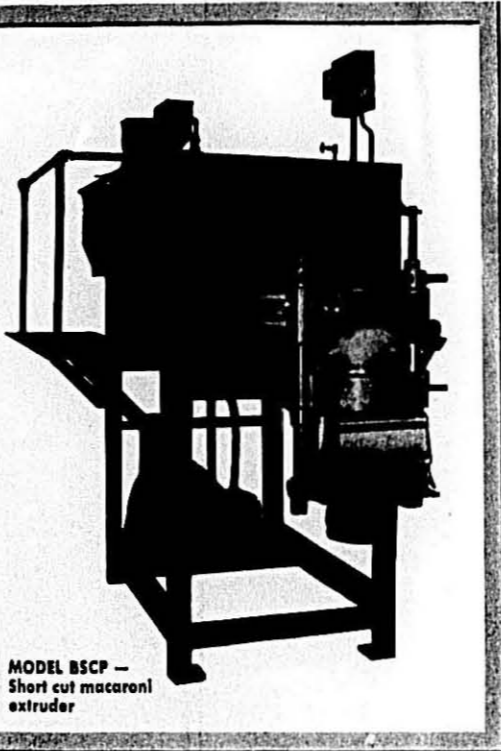
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MODEL BAFS — 1500 Pound Long Goods Continuous Spreader



MODEL BSCP — Short cut macaroni extruder

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**SHORT CUT MACARONI EXTRUDERS**

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- Model SACP ..... 600 pounds capacity per hour
- Model LACP ..... 300 pounds capacity per hour

**LONG MACARONI SPREADER EXTRUDERS**

- Model BAFS ..... 1500 pounds capacity per hour
- Model DAFS ..... 1000 pounds capacity per hour
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**COMBINATION EXTRUDERS**

- Short Cut ..... Sheet Former
- Short Cut ..... Spreader
- Three Way Combination

**QUALITY.....** A controlled dough as soft as desired to enhance texture and appearance.

**PRODUCTION...** Positive screw feed without any possibility of webbing makes for positive screw delivery for production beyond rated capacities.

**CONTROLS.....** So fine—so positive that presses run indefinitely without adjustments.

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THESE EXTRUDERS AND DRYERS ARE NOW GIVING EXCELLENT RESULTS THROUGHOUT THE UNITED STATES IN A NUMBER OF PLANTS.

\*patent pending  
\*\*patented

### Industry Trends—

(Continued from page 22)

service shops. This means that the 'sell-appeal' will have to suit the special conditions of the self-service shops, and that packaging will have to receive special attention. Cellophane or similar materials will have to take the place of paper and cardboard. Cellophane, will not protect pasta as well as, say, cardboard, yet it seems that transparent packages, not only boxes with cellophane windows, have come to stay, and will get an increased portion of the market. Packing machines for cellophane bags have now been developed which will do the packing at lower cost than for cardboard. Tests in self-service shops have shown that consumers will rather choose pasta wrapped in cellophane than these packed in paper bags or cardboard boxes.

### Consumption Changes

Eating habits are changing—pre-cooked foods are consumed in growing quantities. The housewife of today has not the time to spend hours in her kitchen. Pre-cooked pasta dishes should become increasingly popular, and canned spaghetti are already produced in fair quantities, but I do not expect canned spaghetti to be the last word. To start with, canned spaghetti are always over-cooked, and are not as good as they could be. Canning is expensive, and it does not seem reasonable to handle all the water contained in long spaghetti. Also—why spaghetti—the very shape that breaks up during processing, and does not really look like spaghetti when taken out of the can. Why not try a pasta which will keep its shape?

People have started to travel more widely and to enjoy foreign food. They are looking for more variety at the dinner table, and fancy foods are meeting with increased interest. Pasta manufacturers should try to educate their customers to eat pasta not mainly as "spaghetti with meat balls."

As consumers are becoming more "fat conscious" it should be worth while for the Pasta Industry as a whole to have laboratories following the modern trend in nutrition, and help promote the consumption of pasta. The book by A. Keys, "The Fat of the Land," is an example of what can be done.

With the right kind of propaganda and proper care in manufacturing, pasta should have a bright future. It is cheap, clean, easy to handle and to prepare. It can be used for a great variety of dishes. Pasta is adaptable

for a number of diets, containing a fair amount of protein and no fat. It is one of the good things to eat, and, therefore, the Industry can be expected to develop and flourish.

### Convenience Foods—

(Continued from page 23)

very easily prepare a delicious meal using these combination packs with their explicit instructions.

3. Luxury macaroni dinners can be sold in large quantities with a large expenditure of advertising and sales money. They return a proportionately higher profit than the standard product because they are more distinctive since the dinners of two competing companies are not identical. These luxury dinners will not sell unless advertising expenditures are high.

4. The bulk of macaroni products are still sold as dried products outside of combination dinners. This will continue to be true because the variety of dishes which can be prepared is infinite. Furthermore, the packing of combination dinners costs money and the housewife will sacrifice a certain amount of money to save time, but she will not use convenience foods at every meal because this would be too expensive.

5. Macaroni dinners have educated many people in the United States in how a macaroni product should be eaten. Once this lesson has been learned many of the consumers have gone on to make more elaborate "home-made" dishes which can be served as an elegant dish for company or as a variation in the standard diet for the family.

**Freeze-Drying.** In the last 15 years the quality of dried foods has been greatly increased. This has come about through a gradual increase in understanding of the technology required and also through the development of new drying processes such as foam mat drying and freeze drying. Freeze drying in particular has improved the quality of dehydrated soup mixes to the point where they are trying to seriously challenge the canned soups which are staples of the American diet.

A product is freeze-dried under a very high vacuum. The ice crystals in the product go directly from solid to vapor without passing through the liquid stage. The resulting product does not change its shape and has a spongy texture which easily re-absorbs water. Freeze-dried shrimp can be reconstituted by submerging in cold water for about 10 seconds and are then very comparable in texture and taste to fresh shrimp. Freeze-dried products are too expensive to be sold

alone without some kind of extender. The combination of the two can be delicious and inexpensive.

We expect that in the next few years the total consumption of macaroni products will be greatly increased through the increased consumption of inexpensive convenience products and through a variety of delicious prepared dishes which can be either dry or frozen. We expect that this will not subtract substantially from the consumption of the standard dry macaroni products.

### Dobeckmun Developments

The annual report to stockholders of the Dow Chemical Company had the following information on its Dobeckmun Division: a year of continuing growth of markets for flexible packaging saw the Dobeckmun Division extending its role among leaders in the field. Significant for the future were numerous developments involving film and molded applications of Dow plastic resins.

Sales of Trycite polystyrene film reached substantial volume through use by supermarket operators as over-wrap for produce and fresh meat and in other applications such as window covering for bacon packages. Lettuce growers in Western states adopted Trycite for on-the-spot wrapping of fresh-picked produce.

### Metalam

A major development was Metalam, a lamination of polyethylene film with aluminum foil and polyester film. As a sealed package, this lamination serves as an extreme barrier to moisture. This makes it a favorite for packaging food items such as dry sauces and seasoning mixes. But a greater potential is in packaging of meats, poultry, and seafoods that have been freeze-dried; for these, Metalam makes possible a shelf life of up to two years without refrigeration. Such usage is under intense study by the food industry.

Durafilm, a transparent film lamination, is another Dobeckmun product fitting new trends in supermarket food sales. Specialty application in wrapping delicatessen items and conventional use as a commercial cheese wrap combine film protection with good appearance.

Production facilities for Dobeckmun products were expended during the year. At the Brookside plant in Cleveland, capacity for output of Trycite was substantially enlarged. At Findlay, Ohio, additions were made to increase production of rigid containers. This division was also given management responsibility for the polyethylene film plant at Honolulu.

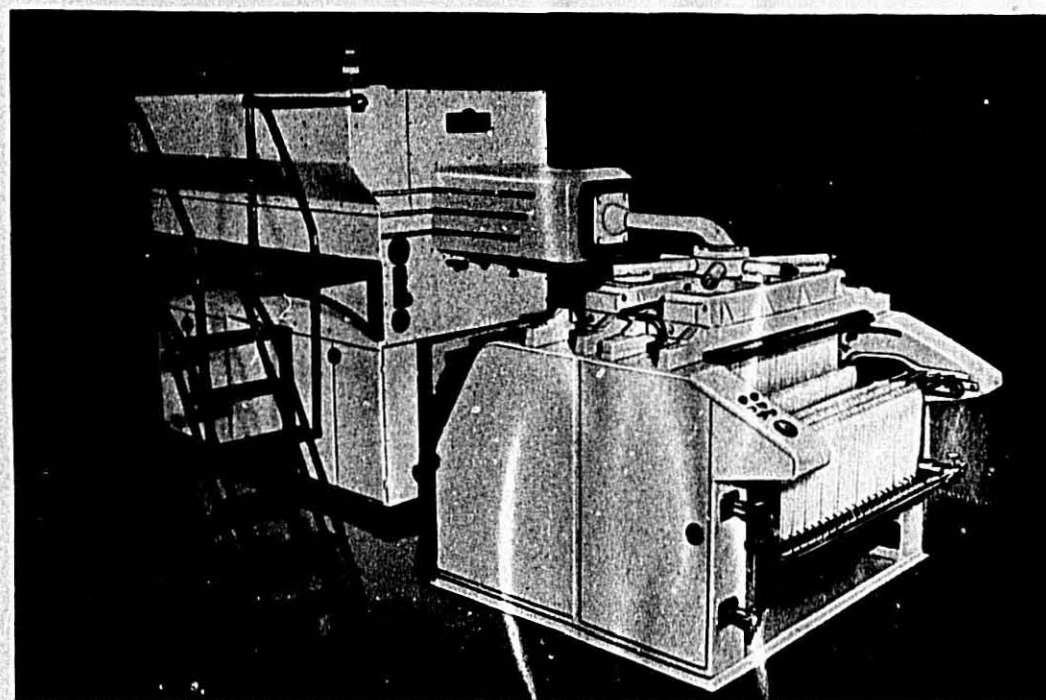
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### Fire

Fire gutted the Constant Macaroni Products plant at 254 Dumoulin Street, in St. Boniface, a suburb of Winnipeg, on August 25. Lucien and Madeleine Constant called for help from their colleagues in the macaroni industry in the form of good used equipment in order to carry on the operation established by their father.

The blaze, believed to have originated in the basement and raced up the stairway to the third floor, left some second floor machinery and all office records virtually unscathed.

All four walls were left standing. Inspectors, fearing the walls might collapse at any time ordered a demolition company in to knock down the third story and shore up the rest of the building.

Further investigation to determine the exact cause and extent of the damage was to follow. Provincial fire inspector Arthur Humphries said, "No damage estimate will likely be made until adjusters know just how many machines avoided damage."

### In Zanesville

Fire broke out on the third floor of the Ballas Egg Products Corporation in Zanesville, Ohio, Saturday morning, August 17. Cause of the fire was undetermined. Within a matter of ten minutes, the whole room was in flames. The building was originally an old ice-house and the roof was insulated with 18 inches of sawdust. When the fire hit this, it went all over the roof and ruined it in its entirety. The fire was confined to the third floor and roof. Serious water damage to cork insulation in the freezers by water seeping through the third story floor and getting behind the cork and freezing will cause it to fall when blast freezers are defrosted.

The third floor at Ballas was used for storage of all kinds of commodities and foodstuffs including their inventory of albumen and yolk solids. This being a cooler room where they carried breaking stock of shell eggs prior to processing, it was about half full of shell eggs on hand for the following week's operation. Some 8,000 cases of shell eggs were inspected and found to have smoke odor and declared unfit for human consumption, so they were broken for animal feed.

All other products were carefully inspected by the Food & Drug Administration, the United States Department of Agriculture, and Ballas personnel. Products elsewhere in the building were not affected by the fire.

Rapid cleanup caused Ballas to announce a target date of mid-September to resume operations. Meanwhile, they rebuilt their inventories of shell eggs, so they would be able to break right through the fall and winter season. Their trade letter reported: "The shell egg markets continue very firm. Both the future markets and cash markets are holding firm. Eggs for breaking are very dear and very limited. Our salvation now is our own controlled flock production."

### Soup for Students

School box lunches packed with two Mrs. Grass Soup Mix twin-packs will be featured this month in a back to school promotion. The boxes are said to have a retail value of approximately \$1.50. They are being sold at a suggested price of \$1.39 to \$1.49, including the two twin-packs of soup. Four soup varieties and three different lunch box designs are available.

### Instant Sauce

An instant spaghetti sauce with tomatoes is being marketed by the Spatini Company, Philadelphia. Two envelopes of powder in a two and one-fourth ounce box priced at about 33 cents are said to make one pint of sauce.

### Prince Promotes at Palisades Park



Irving Rosenthal (right), president of Palisades Amusement Park, receives a scroll designating him as Honorary Mayor of Prince Spaghettiville, U.S.A., eight and one-half park-like acres within the city limits of Lowell, Massachusetts, which includes the site of the Prince Macaroni Manufacturing Company's national headquarters and main plant. Making the presentation is Sal Cardinale, head of Prince's Greater New York division. The occasion was the introduction of Prince Italian foods to families visiting the amusement park.



Spaghetti Champ, David Dimick, 6, of Fort Lee, New Jersey, receives scroll designating him as top winner of the First Annual World's Championship Spaghetti-Eating Contest for boys from Joseph Cardinale of the Prince Macaroni Manufacturing Company, Lowell, Massachusetts. David outpointed nine other finalists in the contest at Palisades Amusement Park by displaying a variety of handling techniques while downing three huge bowls of spaghetti. At one critical point, the ingenious youngster resorted to a scissors to clip some unmanageable strands.



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## The Problem of Cooking Macaroni



Cooking characteristics can be scientifically evaluated.

**BRAIBANTI & Company of Milan** has recently issued a bulletin on a problem of great interest today: the cooking of macaroni products. The full report was presented at the Detmold, West Germany convention by Dr. Robert Cuneo of Braibanti and published in "Molini d'Italia."

The article states that semolina for macaroni production is obtained after cleaning and conditioning of the wheat by special milling. Both in mills and laboratories of macaroni factories quality of semolina is controlled by determining the percentages of wet and dry gluten.

Determination of proteins and ash, however, leaves the operator still with an incomplete answer as to the manufacturing value of his raw materials. Instruments for qualitative examination based on plastic properties of gluten are not available on the market, so dough behavior has been studied with the Brabender Farinograph.

The farinograms show the water absorbing properties, according to humidity degree and granulometrical index of the sample. The coarser the semolina, the slower the water absorption, recognizable from the type of curve on the farinogram and the time employed to reach the conventional consistency.

In the successive phase after water absorption, usually two to three minutes, dough stability is observed. This

is resistance the already formed dough offers to the action of the mixers. After 20 minutes mixing time the dough will become softer, and can be measured in degrees, starting from the consistency line. A range of values indicates a "weak," "middle," "good" and "excellent" stability of a high, medium or low softening of dough.

This is a commercial classification, as established on the basis of minimum and maximum content of dry gluten, minutes of stabilization and degree of softening, pertaining to a semolina test.

Laboratory size presses and dryers are available to reproduce the industrial operation with small samples of raw material in two or three kilogram quantities. These laboratory tests provide information for graphs and analysis. The problem is complex when one considers the variability of the manufacturing features of raw materials; the manifold factors involved in using different manufacturing principles, and then comparing in the same cooking test—different shapes cooked in different times with different water.

### Fire Test

But cooking is the "fire test" because good macaroni cannot be transformed from bad flour to be "without stickiness" and endowed with all those external features which please the consumers' eyes.

Such a judgment is subjective, and numerical or graphical indexes are needed to read and possibly quickly performed.

In the United States "Cereal Laboratory Methods," pages 119-121, 8th edition, describes a cooking method based on the principle of measuring the resistance of the material tested, submitting a small quantity to a certain cooking method and then testing the resistance opposed to compression. Also examined separately is the residue of cooking water, with the usual method of evaporation.

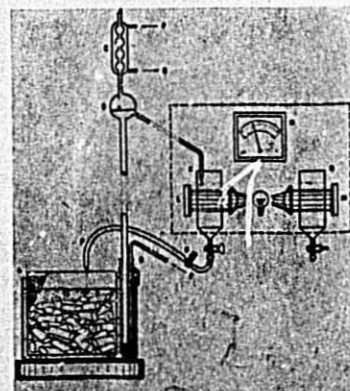
### Borasio System

The Borasio system has been used many years in Italy, originally based on the following procedure: fixed cooking times at 18 and 28 minutes; determination of volume of raw macaroni; then the cooked macaroni; the weight of the cooked macaroni; and determination of sedimentation index.

Generally it was observed that a good quality macaroni product, obtained from semolina made of good durum wheat, required a rather long cooking time, with water absorption and increase in volume. It had low sedimentation and thus less dry residues in the cooking water.

The cooked product remains, even after a certain time, compact, elastic, translucent, without sticking or stickiness, which is not always the cause of high mushiness in the cooking water.















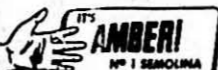
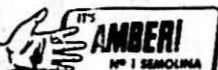
(Continued on page 36)



In the diagram above, A represents cooking pot of stainless metal or fireproof glass with attached basket holding macaroni; B, a device for elevating cooking water; C air pressure pump; D, collecting tube; E, water refrigerator (F-G); H, L.M.-P.Q., colorimetric device with photoelectric cells type Lange.

THE MACARONI JOURNAL



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OCTOBER, 1962

## Durum Prospects Bright

### Cool Combination

"The combination of adequate moisture and cool temperatures has been very favorable since mid-May and has resulted in heavy stands of grain and has given grains a chance to fill well," said the United States Department of Agriculture Weather & Crop Report for North Dakota. Then the August 1 estimate went up a whopping 20 per cent over the previous month, from 47,300,000 bushels to 57,119,000. Estimated yields now stand at 24.3 bushels per acre, almost too good to be true.

The crop is four weeks later than normal, with only 38 per cent turning ripe as of August 1, and 2 per cent swathed in southern North Dakota counties. In 1961 27 per cent of the crop had been cut or swathed, so there could be frost and sprout damage this year. Black stem rust was present in trace or slight amounts on susceptible varieties but damage was not expected to be heavy.

### Increased Plantings

The Semi-annual Durum Report stated that United States growers were encouraged to step up production this season in order to provide an adequate supply for the macaroni industry and export. In December, 1961, the USDA announced that special legislation was passed to allow an increase in durum acreage allotments. Simultaneously, the USDA sharply increased the level of durum wheat premiums under support operations to 10 cents a bushel for ordinary durum, 25 cents per bushel for Amber durum and 40 cents per bushel for Hard Amber durum. Growers took advantage of the more liberal allotments and acreage increased to 2,354,000 acres—one of the highest on record. Under the special durum wheat program 13,633 farms signed up through April 16, 1962. These farms had an average 1960-61 durum wheat acreage totaling 1,129,700 acres, with a total original 1962 wheat allotment of 1,587,000 acres before the mandatory 10 per cent reduction. On the basis of the maximum 40 per cent increase in durum acreage permitted each farm, the total indicated increase would be 439,257 acres. The Department on June 15 announced that wheat price support eligibility provisions relating to the special durum wheat program were being relaxed where adverse weather prevented producers from meeting the requirements of increasing durum wheat acreage above 1960-61 plantings.

### Shortage Zooms Prices

Faced with a serious shortage of durum last fall and winter both exporters and mills competed aggressively for available supplies. Prices began to climb sharply following harvest and continued to rise steadily until late December and early January when prices reached a peak. At that time, No. 1 Hard Amber durum was traded as high as \$3.70 a bushel. Export interest fell off during the final six months of the crop year and prices worked gradually lower, until late in July when they were near the loan level for 1962 crop. No. 1 Hard Amber durum was trading in a range of \$2.68-\$2.73 per bushel at the end of July. Terminal loan level for 1962 crop, basis Minneapolis, is \$2.75 for Hard Amber; \$2.60 for Amber; and \$2.45 for ordinary durum.

### World Shortage

During the present year there has been a world-wide shortage of durum and exports were large even though supplies were limited. Principal buyers were Algeria, France and the Netherlands. United States exports for 1961-62 season reached 15,878,000 bushels. This figure compares with 5,256,000 exported the previous year. No subsidy was paid on any durum sold for export during the 1961-62 year.

Carry-over stocks of durum on July 1 totaled nearly 5 million bushels. This is the first complete survey of July 1 stocks by the Crop Reporting Board. The estimated carry-over a year earlier was 20 million, part of which may have been in exportable positions but were included in the 1961-62 exports. Supplies of durum for 1962-63 totaled 52 million on the basis of July 1 conditions. If realized this would be a third above last season and the second largest of record. Only in 1957-58 when the carryover was estimated at 14 million were supplies larger than for this season.

### Milling Down

Nearly 14.3 million bushels of durum were milled for durum products last season. This compares with 23.4 million milled in 1960-61. Only in the three years, 1953-55, of the last 25 years were millings less than this season. Because of the short supplies of durum, it was necessary to supplement the demand for durum products by the use of other wheat. Production of semolina and blended flour totaled 8.5 million hundredweights as against 10.6 million in 1960-61. Exports continued large with 32,625 cwt. of macaroni and

macaroni products and 137,079 cwt. of durum flour and semolina exported last season. Imports of 87,184 cwt. of macaroni and similar products last season were somewhat above the 78,879 cwt. imported in 1960-61.

Carlot inspections of durum put the vast majority of 4,296 cars in the Hard Amber grade; 522 cars graded Amber; and 71 cars graded Durum.

### Storage Is No. 1 Project

Storing the harvest of a record yield is the primary priority of durum producers this year says Durum Kernels, bulletin of the Durum Growers Association. Loan rates on the 1962 crop are at a level that will warrant making storage arrangements, the bulletin continues, noting Minneapolis prices for durum near the loan level.

### The Canadian Situation

The visible supply of durum in Canada at the end of June was down to 3,781,612 bushels compared with 6,088,724 the year before. Exports dropped sharply reflecting the smaller crop. August 1, 1961 through June 27, 1962 they totaled 6,047,952 bushels. Domestic use, which included milling for export during the same period, accounted for 1,704,310 bushels for a total commercial disappearance of 7,752,262 bushels. This compared with a disappearance of 42,398,826 bushels in the August-June period in 1961.

Producers were urged to increase their plantings this spring. They responded with a preliminary estimate of 3,199,000 acres—an increase of 1,347,000 over last year, 73 per cent. In Manitoba acreage was increased from 85,000 acres to 161,000; in Alberta from 189,000 to 425,000; in Saskatchewan from 1,578,000 to 2,613,000. Total for the three prairie provinces: from 1,852,000 acres to 3,199,000.

### Durum Everywhere

C. L. Sibbald, Director of the Catell Durum Institute, reports that there seems to be durum everywhere you look on the southern sections of the Canadian prairies—that there is a big crop in the making, but its actual size is still a question.

The season opened with great concern over the soil moisture condition. Great areas were deficient. Almost immediately a pattern showed up as the eastern prairies got abundant rainfall while the southwest areas were not so lucky. Throughout Manitoba and Eastern Saskatchewan heavy land was

soggy with water at the beginning of August and some durum had gone down. Given good harvest conditions, a large percentage of these crops will yield 25 to 30 bushels per acre.

In Western Saskatchewan the lack of moisture is immediately apparent. After emerging many fields suffered severely from lack of rainfall. Then it came, but almost too late. Some grain that was not too far advanced came on strong and filled well. Others were already headed out and are stunted. Patchiness is apparent throughout the area and yields will not be much above 10 bushels on the average.

Much of Southern Alberta has been dry to raise good crops on non-irrigated acreage. Yields will be very disappointing. An exception is that area adjacent to the foothills of the Rockies, where crops will yield from fair to good.

### Mixed Picture

In summary, it is a mixed picture. With the crop late the hazards of rust and frost are apparent. But if all the grain can be harvested, Canada will have a big durum crop.

Large plantings have already prompted the Canadian Wheat Board to announce an initial quota restriction of five bushels per seeded acre with a total delivery of 200 bushels of durum allowed. This will mean, in the majority of cases, temporary storage of some durum on farms.

In early August, the Canadian Wheat Board reduced prices on durum by 10 cents a bushel bringing No. 1 durum, basis to Lakehead, to \$3.4525.

### Canadian Prices Break Sharply

In mid-August prices for export of Canadian durum broke 54 cents in a week, from \$3.60 to \$3.05125, reflecting prospects for a large harvest.

### Kenner Elected

Alvin Kenner, Leeds, North Dakota and former chairman of the Durum Growers Marketing Committee, has been elected president of the Durum Growers Association of the U.S.

### Egg Values Advance

Hot weather in August saw egg receipts decline and breakers going into inventories of shell eggs, while yields of liquid eggs were reduced sharply.

The U.S. Cold Storage Report showed shell eggs as of August 1 up 32,000 cases from a year ago, but 544,000 cases under the five year average. There were more frozen whole eggs in storage but less whites and yolks than a year ago.

There were more layers on farms at the end of July than the year previous, but there were fewer replacement pul-

lets which could indicate less laying hens this fall with consequent lower production.

The hatchery report, released August 16, showed egg type chick production in July at 23,522,000 versus 21,207,000 for the year previous. The cumulative figure January through July was 389,514,000 chicks versus 416,690,000 the year previous, a decrease of over 27,000,000, which will have an effect this winter.

In the Chicago market, shell eggs hit their peak in August at midmonth, selling at 25.5 to 29 cents. They were off a cent at month's end. Frozen whole eggs ranged 22 to 24.25, while whites strengthened from nine to ten cents to a full cent higher. Frozen yolks of dark color were stable between 55 and 57 cents. Dried whole eggs went for 96 cents to \$1.10 while dried yolk solids ranged at \$1.09 to \$1.18.

### Heavy July Pack

Production of liquid egg and liquid egg products (ingredients added) during July totaled 73,117,000 pounds, compared with 55,707,000 pounds in July 1961 and the 1956-60 average of 49,265,000 pounds. It was the largest production for the month since July 1944. The quantities used for immediate consumption, freezing, and drying were all larger than a year earlier.

Liquid egg used for immediate consumption totaled 6,539,000 pounds, com-

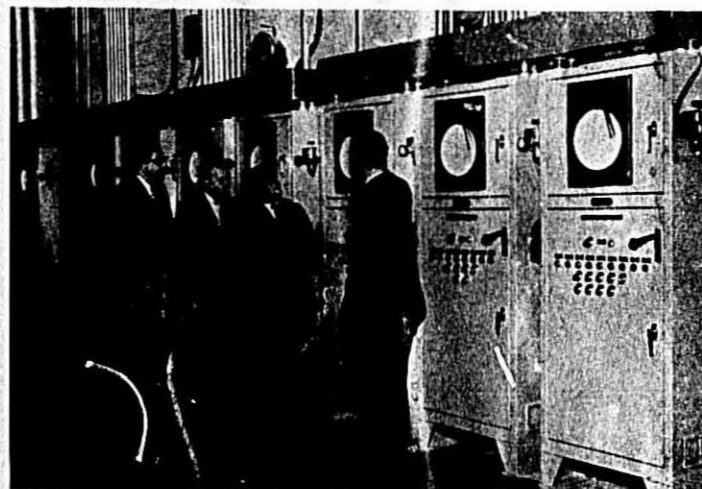
pared with 4,701,000 pounds in July last year. Liquid egg frozen totaled 41,235,000 pounds, compared with 28,212,000 pounds in July 1961 and was also the largest for the month since July 1944. Frozen egg stocks increased eight million pounds during July, compared with 45,000 pounds in July 1961 and the average of seven million pounds. Quantities of liquid egg used for drying were 25,343,000 pounds in July 1962 and 22,794,000 pounds in July a year ago.

Egg solids production during July totaled 6,470,000 pounds, compared with 5,844,000 pounds in July 1961. Production consisted of 4,047,000 pounds of whole egg solids, 1,012,000 pounds of albumen solids and 1,411,000 pounds of yolk solids.

For the first seven months of 1962, the production of liquid egg totaled 481,722,000 pounds, compared with 468,741,000 during the same period in 1961. The cumulative quantities by use were: for drying, 147,262,000 pounds, down six per cent; for freezing, 298,108,000 pounds, up eight per cent; and for immediate consumption, 36,352,000 pounds, up three per cent.

### The Buhler Corporation

C. Rudolph Moor, of The Buhler Corporation, Minneapolis, has resigned as president and will be succeeded by Dr. Rudolph A. Schatz, who will begin his work in October.



Dr. Rolf Buhler, general director of Buhler Bros. Corporation, Uzwil, Switzerland, on a short business visit to the firm's American headquarters at Minneapolis, took time off for a flying trip to Omaha to inspect the new Skinner Macaroni Plant. Above Dr. Buhler inspects the unique layout of the control panel in the Skinner Plant. At this one position, the press room foreman can determine the humidity and temperature in all dryers. Signal lights indicate whether fans, drives, and other mechanical equipment are operating properly. Pictured above from the left are: Lloyd E. Skinner president of Skinner Macaroni Company; H. Geddes Stanway, executive vice president; Dr. Rolf Buhler, and William Berger, Buhler representative in the United States.

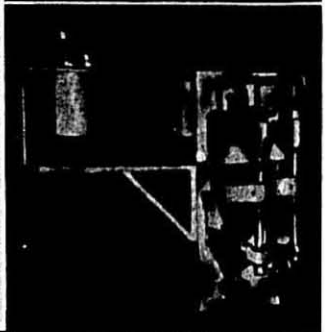
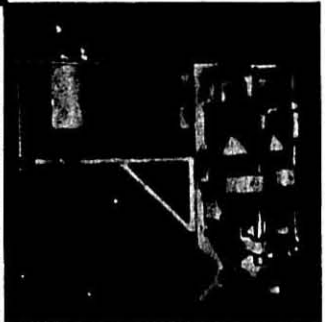
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not essential).*



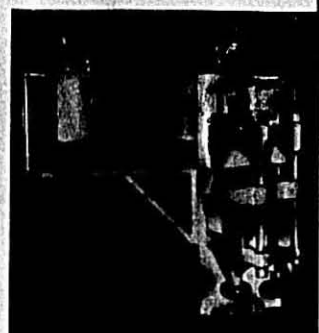
The new Demaco Short Cut Press with two extrusion heads assembled in one compact unit will produce over 2000 pounds per hour of short cuts. Here the accent is on quality, production with slow, slow extrusion over two dies. Before you buy, investigate the many outstanding features offered by Demaco. This new Demaco 2000 pound per hour press is planned for tomorrow's needs, today. This is the key to better production capacity needed today. Over the past 20 years, the outstanding performance of the 1000 lb. Demaco short cut presses have proved their value in longest service and lowest operating costs. Demaco's 2000 pound per hour press has even higher standards of quality and still lower maintenance costs. For more information write or call De Francisci Machine Corporation.



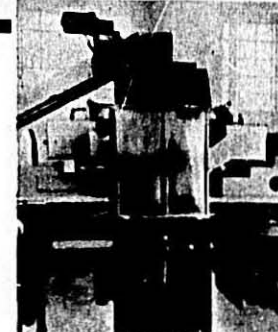
**DEMACO**

*the full line:*

SHORT CUT PRESSES, AUTOMATIC SPREADERS, SHEET FORMERS, SHORT CUT DRYERS, NOODLE DRYERS, LONG GOODS PRELIMINARY DRYERS, DRYING ROOMS, EGG DOSERS.



**COME SEE IT IN OPERATION -  
THE NEW DEMACO SPAGHETTI WEIGHER**



*weighs  
all  
types*

Reduce packing time and increase productivity. Demaco's new Spaghetti Weigher has all the time savings innovations that will reduce your packing time — here's why — **Speed** — average over 40 packages are accurately weighed per minute. **Versatility** — can handle the full range of dried goods: straight, curved, hooked and short ends. Now weighing Spaghetti, Spaghettoni, Macaroncelli, Perchatelli, Vermicelli, Linguini and Linguini Fini. **Adaptability** — designed for all standard carton packaging machines. Can be supplied with a completely automatic feeding and conveying system direct from stripping machine. **Accuracy** — is maintained by Demaco's unique strand per strand dribble mechanism. Final weight is insured by highly sensitive opto electrical principle of frictionless weight indication. scales.

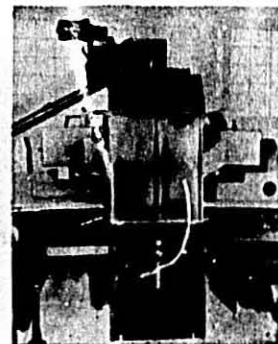
Demaco Spaghetti Weigher can also be adapted for 1/2 pound packages, 2 pound packages or 3 pound packages.



**De FRANCISCI  
MACHINE CORPORATION**

45-46 Metropolitan Avenue  
Brooklyn 37, New York

Phone EVergreen 6-9880



*weighs  
all  
types*



Fig. 7—Effect of 1 per cent salt on farinogram parameters at varying absorption and 30 degrees C.

**Rheological Studies—**

(Continued from page 17)

time, and pressure all can be varied to suit the needs of a given semolina. A skilled, experienced operator can adjust for the particular rheological properties of each dough as the various stages come up. With continuous processing, there is not time nor opportunity to adapt the process to the semolina unless the rheological characteristics of the dough are known before it is processed. Modern processing demands greater uniformity in semolina quality if satisfactory results are to be achieved. The change-over from batch to continuous processing was made without an extensive background in the rheology of macaroni doughs. Various attempts have been made to correlate the behaviour of doughs in continuous processing equipment with measurements made on existing instruments using techniques developed for testing the rheological characteristics of bread wheat doughs; there seems little doubt, however, that the rheological properties of semolina doughs are very different at macaroni processing absorption than at baking absorption. The technique discussed here has the merit that a commonly available instrument is used and measurements are made on doughs at normal processing absorption. The results obtained in exploratory studies suggest that much can be learned, especially from the examination of the dynamic characteristics, about the rheological properties of macaroni doughs and how they are affected by such factors as semolina particle size and gluten quality.

**Summary**

A technique for characterizing some of the rheological properties of semo-

lina doughs at absorption levels corresponding to those used in continuous macaroni processing has been developed using the farinograph. Some illustrations are presented of how the rheological properties vary with such factors as gluten quality, semolina particle size and addition of salt. Evidence is also presented to relate rheological behaviour and pigment loss per unit of lipoxidase activity during processing.

**REFERENCE**

Irvine, G. N., Bradley, J. W., and Martin, G. C. A Farinograph Technique for Macaroni Doughs. Cereal Chemistry 38, 153-164, 1961.

**New Appointment**

William C. Shuey has been appointed a research leader of the U.S.D.A. Wheat Quality Laboratory, which is being moved from Beltsville, Maryland, to the North Dakota State University Campus, Fargo, North Dakota. This will bring the number of Federal personnel in the laboratory to four.

Mr. Shuey has had extensive research and industrial experience in the area of wheat quality and has been employed by General Mills since 1948, first at Wichita, Kansas, and has been a member of the Central Quality Control staff in Minneapolis for the past ten years. He has had broad research experience and has participated extensively as a member of technical committees concerned with quality of the American Association of Cereal Chemists.

Mr. Shuey assumed his new duties in early September.

**French Tour Durum Area**

A group of French millers and macaroni manufacturers toured the durum area in mid-September as guests of the Great Plains Wheat, Inc.

Fig. 8—Relation between tolerance index and loss of pigment during processing per unit of lipoxidase.

**Cooking Macaroni—**

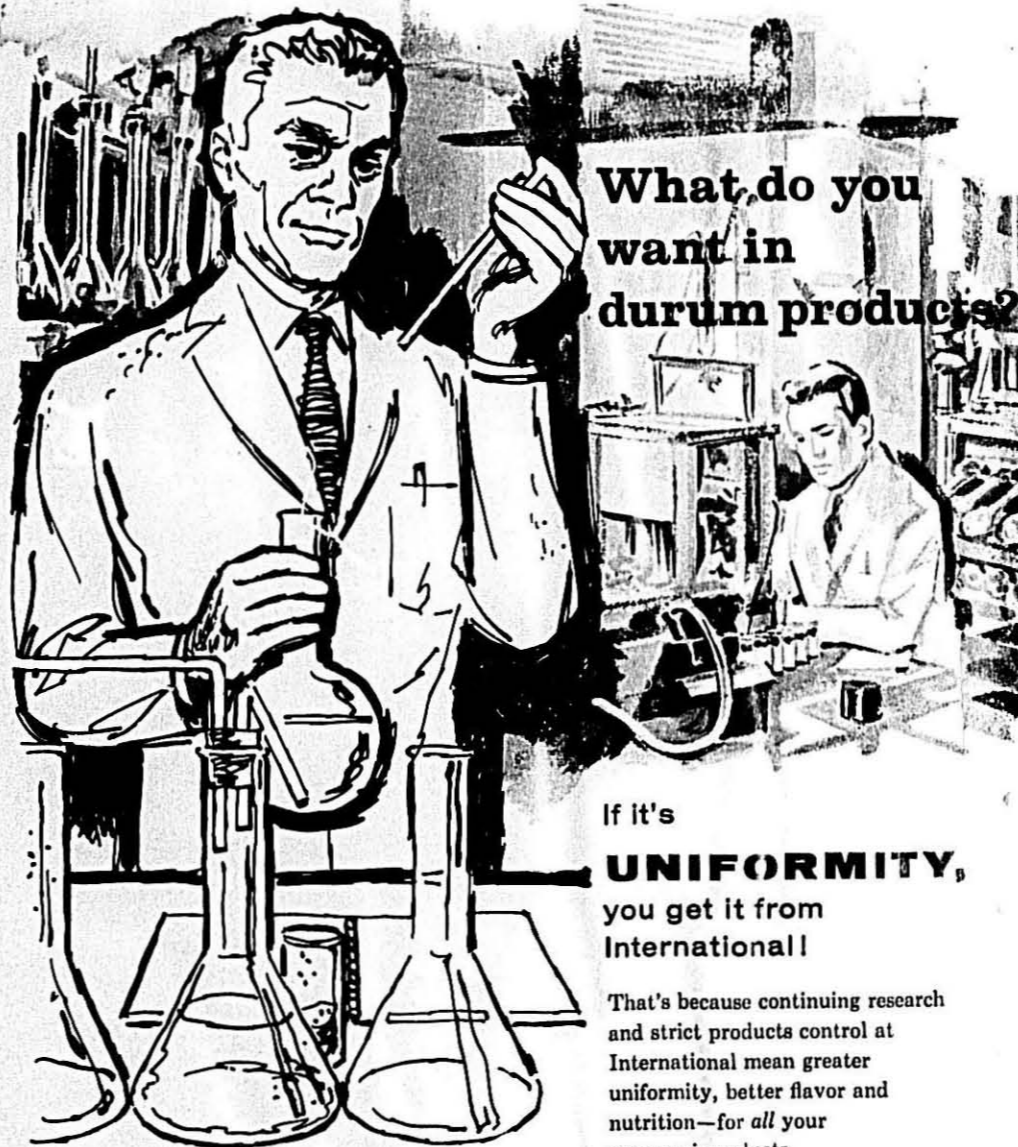
(Continued from page 30)

In recent years, the introduction of the vacuum press and the use of teflon dies has further complicated behavior in cooking. For example, it has been noted in comparative tests that there is not always a high increase in weight and volume of a cooked product produced with high quality raw materials. In addition to observing the close correlation between weight and volume of a raw or cooked product, present studies are checking the percentage of sediment found as dry residue in evaporated cooking water. This is being done by the systematic withdrawal of water samples at predetermined times and the use of a Lange colorimeter to establish the degree of mushiness and to follow the phenomenon on graphs outlining the characteristics of every type and quality of macaroni.

The article then describes the procedure and reviews graphs showing a reproducibility test made three times with the same product; the different behavior of the same macaroni in various cooking waters; comparisons of cooking between spaghetti made with soft wheat and spaghetti made with durum; cooking behavior of spaghetti manufactured from various blends and blends with additives.

These graphs have been used to study effects of teflon dies, press operation, and determination of proper cooking times for a given product.

The report notes that it is undoubtedly advisable, on a control basis, to cook part of the sample macaroni separately, in order to obtain a taste and behavior judgment of macaroni after its proper cooking time, under the same conditions as utilized by the cook or housewife.



What do you want in durum products?

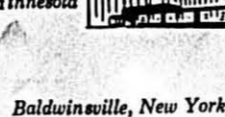
If it's **UNIFORMITY**, you get it from International!

That's because continuing research and strict products control at International mean greater uniformity, better flavor and nutrition—for all your macaroni products.

So, the next time you order, be sure of uniformity with durum products from . . .



Saint Paul, Minnesota



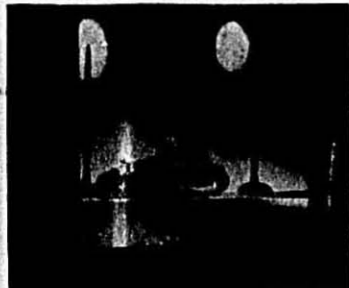
Baldwinsville, New York

**International**  
MILLING COMPANY  
DURUM DIVISION

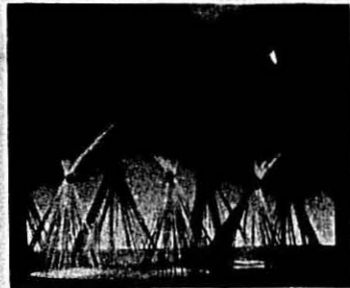
GENERAL OFFICES: MINNEAPOLIS 2, MINNESOTA



Long strands of macaroni are arranged to look like a field of growing wheat displaying a bracelet and necklace.



A gold dish, with the cover off and flanked by candelabra, is filled with golden spirals of rotini.



Sheaves of spaghetti strands are held together by rings in an attractive arrangement.

## Macaroni at Tiffany's

Surrealism? No! These are window displays of New York City's famous jewelry store, Tiffany's.

Mr. Gene Moore, window designer for Tiffany's since 1955, says he has been fascinated with the various shapes of macaroni products for some time and that his idea for windows came with the handling of the macaroni. According to Mr. Moore, the macaroni practically arranged itself.

When purchasing props for his displays, he bought five pounds each of the many shapes. Surprised at such a purchase, the sales girl asked him what he was going to do with it. His reply: "Put it in a store window!"

brought raised eyebrows and another shocked question: "How?"



Crystal goblets of different sizes are emphasized by different types of macaroni shapes displayed in each.

Interlocking disks made of various shapes of macaroni products look like ethereal gears above and behind wrist watches.

### From Advertising Age

Advertising Age reports the hundred largest national advertisers, including 22 companies with food lines, spent a record \$2,860,000,000 in advertising in 1961, up two per cent from the year previous.

Largest advertising expenditure by a food company was \$105,000,000 spent in the United States by General Foods Corporation, which ranged third in the nation in ad spending. American Home Products Corporation was second, National Dairy Products Corporation third, followed by General Mills.

### Spaghetti and Bud

"Spaghetti Night! Some people really know how to make spaghetti! And what goes best with it? We'll give three . . . two . . . one guess. Where there's life . . . there's Bud."

So advertises Anheuser-Busch, Inc., famous brewers of St. Louis, Newark, Los Angeles and Tampa in current placements in Saturday Evening Post, Sports Illustrated, Time and Life. In

attractive full-color a happy couple are pictured enjoying a spaghetti supper with Budweiser beer.

On billboards around the country the same idea is illustrated by the man pictured above with the caption: "This calls for Bud."

Honesty is a fine jewel, but much out of fashion.—Thomas Fuller.

### Diamond Jubilee

A Diamond Jubilee promotion featuring the entire line of Diamond Ravioli's frozen Italian foods will get under way after Labor Day in the metropolitan New York area. Suggested for in-store tie-ins with other Italian food products, the promotion will be backed by trade and consumer advertising in newspapers and on billboards.

### Outdoor advertising appears around the country.



THE MACARONI JOURNAL



Join the party! Tie-in with the merchandising opportunities national publicity placements by the National Macaroni Institute makes possible for extra sales of macaroni, spaghetti and noodles. For details write **The National Macaroni Institute**, Palatine, Ill.

## WAY BACK WHEN

### 40 Years Ago

• A fall meeting in Atlantic City was called "to discourage and destroy the destructive competition that has proven so detrimental to sorrowing hundreds and by better understanding with your fellow manufacturer create a clean, clear and honest competitive business that will conserve the interests of all members of the industry, the milled trades and the consuming public."

• The Minneapolis Journal in a front page editorial suggested that the government in crop reports should distinguish between durum and hard spring wheat.

• A simple way to determine your delivery costs by horse, gas or electricity was offered with a cost analysis form suggesting methods of applying a test to make the final choice.

• After working a year and a half on the tariff, a new law was finally adopted by Congress and signed by the President. Tariff on macaroni was increased from one to two cents a pound. American manufacturers felt better about competition from abroad.

### 30 Years Ago

• Business was coming out of the depression and the editor urged helping the upward trend by promoting quality, advertising and concentration of sales efforts to natural territories.

• The 1932 durum crop was called satisfactory with color fine and protein high. With nearly twice the quantity needed for macaroni making in the United States, there was a goodly quantity available for export.

• "Pleasant Relations With Food Officials" was the topic of an address by Dr. Benjamin R. Jacobs before the Association of Dairy, Food & Drug Officials in Cincinnati.

• The 1932 Italian Olympics team did well, and marathon runner Carlos Zabala attributed his endurance to daily dishes of spaghetti.

### Dow Flexible Packaging Sales

A new sales arm—flexible packaging sales—has been established by The Dow Chemical Company, and Robert S. Jones has been named manager.

Donald K. Ballman, vice president for marketing, purchasing, and distribution for Dow, said the new group consolidates sales of film operations in packaging and packaging-related areas into one marketing unit.

### 20 Years Ago

• Wartime demand for meat by our allies and armed forces was making meat rationing necessary, and macaroni was capitalizing on the meatless meals campaign.

• Nutritional education was being promoted in the Food For Victory drive by the National Grocers Institute.

• President C. W. Wolfe wrote a letter to all macaroni and noodle manufacturers urging them to conserve moisture-proof cellophane which was in short supply because of the war effort.

• Throw your scrap into the fight," declared American Industry Salvage Committee, urging factory scrap campaigns.

• Lend-lease made egg prices high, so the Association waged continuous war against substitutes which were mostly mixtures of soy flour and artificial color.

### 10 Years Ago

• Pretty Helen Olson with chef cap and heaping platters of macaroni and spaghetti heralded National Macaroni Week, October 16-25.

• Henry Putnam of the Northwest Crop Improvement Association reported durum growers discouraged with the past three years of rust and unfavorable harvest weather. "Present premiums" for quality durum should be the best method for obtaining desired supplies, he said.

• After 25 years of service, Bert Groom, chairman of the board of the Greater North Dakota Association, was assembling samples for exhibiting at the International Livestock, Grain and Hay Show for the last time.

• Ted Sills and Bob Green met with macaroni manufacturers in Seattle, San Francisco, and Los Angeles to acquaint them with plans for National Macaroni Week.

Under the previous organization, Dow plastics sales sold film and sheeting to converters and Dobeckmun division sales sold to end users.

"The new organization is expected to improve the spectrum of products and services Dow can offer at all levels of the market for flexible packaging," Ballman said.

Jones, who has been general sales manager of the company's Dobeckmun

### CLASSIFIED

#### ADVERTISING RATES

Display Advertising.....Rates on Application  
Want Ads.....75 Cents per line

**FOR SALE**—Buhler Press, like new. Box 175, Macaroni Journal, Palatine, Ill.

**WANTED**—Midwestern macaroni firm is looking for competent plant manager to handle all business details with exception of sales. Write Box 197, Macaroni Journal, Palatine, Ill.

**FOR SALE**—One Consolidated Die Cleaner. Two F. L. Burt Simplex Positive Displacement Egg Dosing Pumps. Box 198, Macaroni Journal Palatine, Illinois.

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### Louis Onofrio Dies

Louis A. Onofrio, 58, formerly of Kansas City, passed away August 27 in Rochester, Minnesota, where he had been a patient for a few days. He was the plant manager of the American Beauty Macaroni Company in Dallas, Texas, where he lived.

Survivors include his wife, Romana, two sons and a daughter, and two grandchildren.

Division at Cleveland, will make his headquarters in Midland. Jones, who joined Dobeckmun in 1932 at Cleveland, is a graduate of Dartmouth College. He is a past president and a long-time director of the National Flexible Packaging Association.

### DOUGH BREAKER

FORMS SHEET ANY WIDTH AND THICKNESS FROM 1/16" TO 8"



### Bianchi's Machine Shop

221 Bay Street, San Francisco 11, Calif.  
Telephone Douglas 2-2794

## JACOBS-WINSTON LABORATORIES, Inc.

EST. 1920

Consulting and Analytical Chemists, specializing in all matters involving the examination, production and labeling of Macaroni, Noodle and Egg Products.

- 1—Vitamins and Minerals Enrichment Assays.
- 2—Egg Solids and Color Score in Eggs, Yolks and Egg Noodles.
- 3—Semolina and Flour Analysis.
- 4—Rodent and Insect Infestation Investigations. Microscopic Analyses.
- 5—SANITARY PLANT INSPECTIONS AND WRITTEN REPORTS.

James J. Winston, Director  
156 Chambers Street  
New York 7, N.Y.

For dependable uniform quality

## DURUM SEMOLINA GRANULAR FLOURS

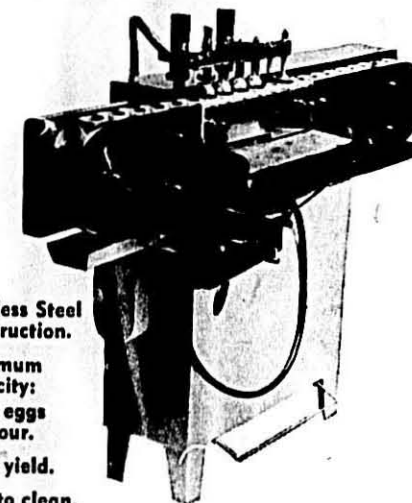
Call Ray Wentzel  
CHapel 6-2101  
New Richmond, Wis.

### Doughboy

DOUGHBOY INDUSTRIES, INC.  
Milling Division New Richmond, Wis.  
Quality Since 1856

### BNA

AUTOMATIC EGG EMPTYING MACHINES FOR ALL YOUR MACARONI PRODUCTS



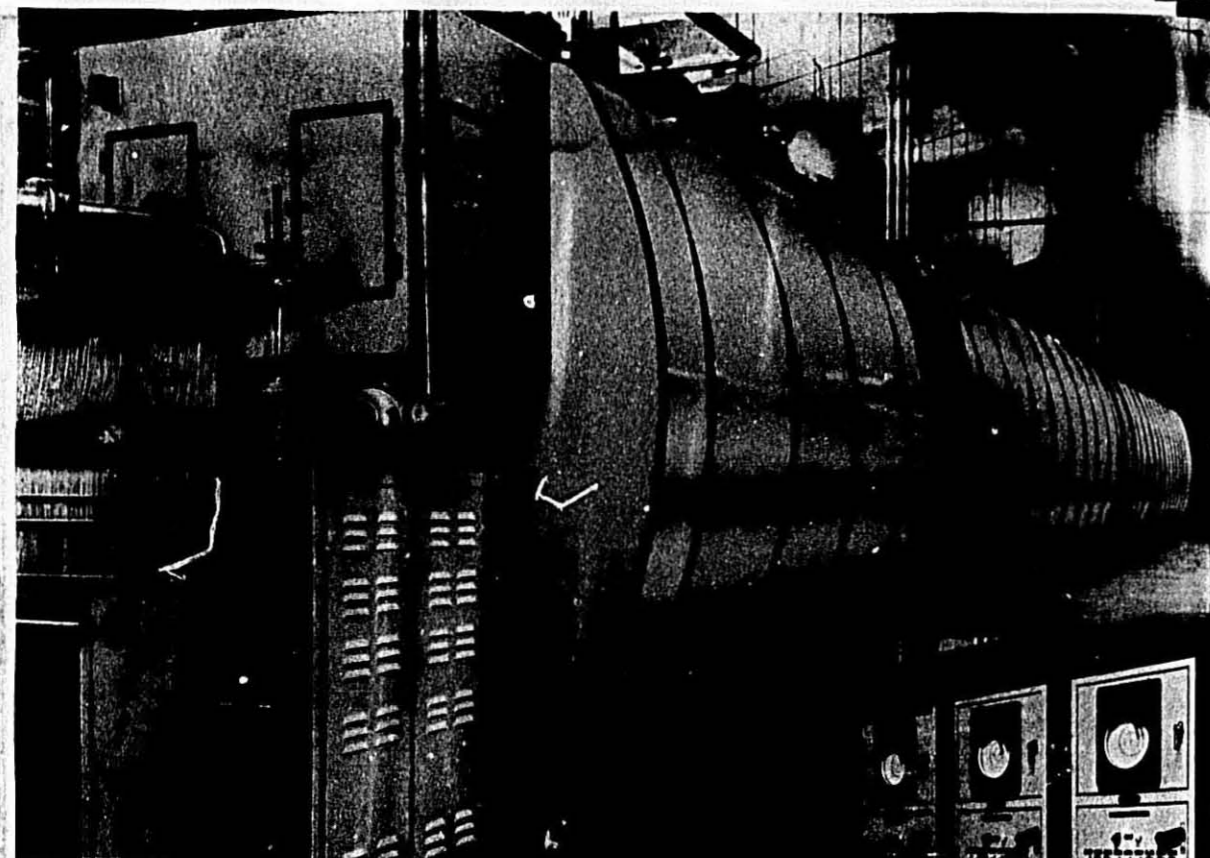
Stainless Steel Construction.

Maximum Capacity: 5000 eggs per hour.

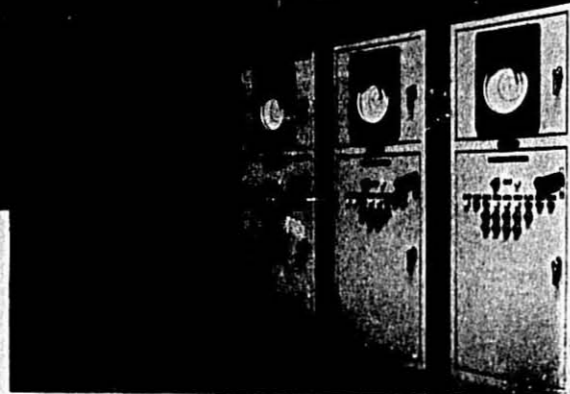
More yield.

Easy to clean.

MACHINERY WORKS BOSCH & NOLTES  
226 Anjelierstraat, Amsterdam, Holland



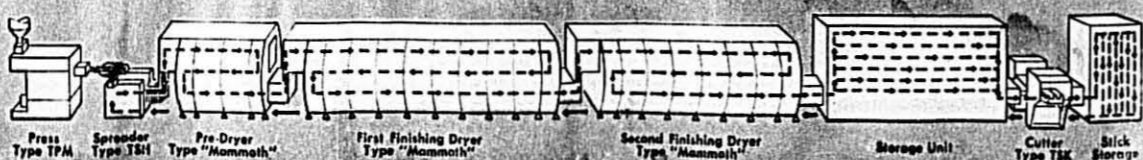
New BUHLER long goods dryer installed at the new Skinner Macaroni Company plant in Omaha, Nebraska.



Control center for dryer line at Skinner Macaroni Company.

## New from BUHLER the Industry's finest long goods DRYER

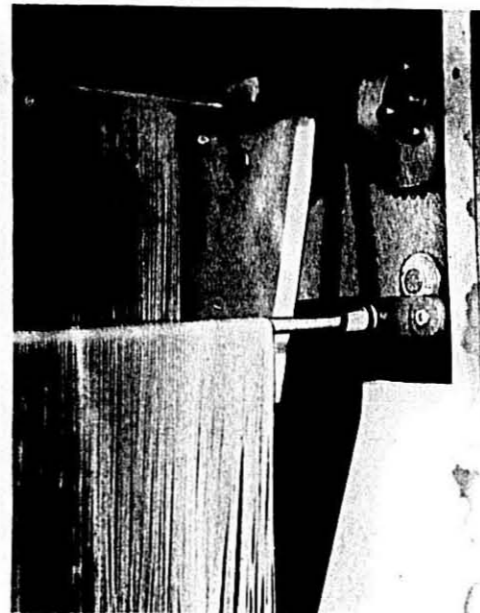
- Sanitary off-the-floor construction prevents condensation on the floor underneath and allows for easy cleaning.
- New positive-control stick elevator with special stick guides prevent rolling or slipping of long goods in transfer.
- Swing-out panels make inspection and cleaning easy.
- Centralized control panels contain unique climate control systems which allow the product to set its own drying temperature according to its water release capability, and also all electrical controls.
- Positive air circulation produces uniform controlled drying.
- New design paneling with special thick insulation stops heat and vapor.



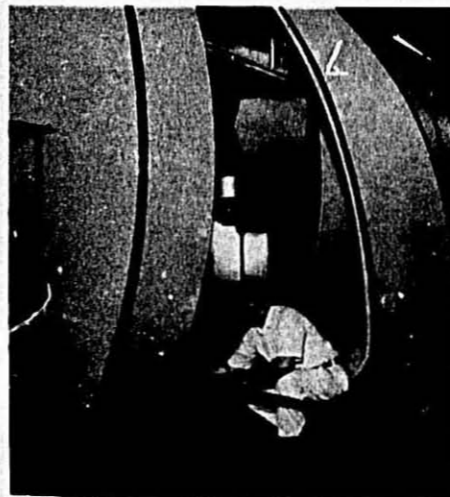
## Specially designed to produce long goods of finest QUALITY

Here is a long goods dryer that features the latest techniques and developments in the industry. Ultra modern and fully automatic, this new dryer was designed from the beginning with the quality of the long goods product in mind. Precise control of temperature, humidity, and air circulation insure the even and thorough drying necessary to producing uniform and sturdy long goods.

**Custom-engineered.** Buhler long goods dryers are custom-engineered to fit your floor space requirements and can be adapted to handle stick lengths from 54 to 80 inches with capacities up to 1500 pounds of long goods per hour. The entire long goods line need not be installed end-to-end. If floor space does not permit it is possible to arrange the various units side-by-side or on different floors.



**New positive-control stick elevator.** This new stick elevator is an exclusive Buhler feature. The sticks are actually picked up by special stick guides which control them positively in transfer. Unlike conventional stick elevator chain devices, these guided sticks can't roll or slide from the chain at the transfer point to the drying tiers, thus practically eliminating mechanical breakdowns.



**Swing-out panels for easy access.** Individual panels on each of the dryer units swing out to provide quick and simple cleaning or inspection. It takes only seconds to get at the interior of the dryer. The panel swings out far enough to give sufficient room for cleaning and maintenance equipment.

**Pre-dryer.** Drying of the product begins immediately at the entrance to the pre-dryer to prevent stretching of the long goods on the drying sticks. The Buhler "Mammoth" pre-dryer handles up to 1500 pounds of long goods per hour and can reduce moisture by 10%. You can also improve your present drying

operation by installing a Buhler pre-dryer in your present production line.

**Inquire now.** If you are interested in producing the finest quality long goods while at the same time increasing the efficiency of your operation, call or write BUHLER today.

Complete  
Macaroni Plants  
by **BUHLER**

THE BUHLER CORPORATION, 8925 Wayzata Blvd.,  
Minneapolis 26, Minnesota. Phone: Liberty 5-1401  
BUHLER BROTHERS (Canada) LTD., 111 Queen Street  
East, Toronto 1, Ontario. Phone: Empire 2-2575  
Sales Office: New York City, 230 Park Avenue. Phone:  
Murray Hill 9-5446

## MACARONI USA

### Betty Crocker Presents Farm Harvest Casserole

Chicken, noodles, vegetables and seasonings... imaginatively blended for a hearty Midwestern flavor!



#### FARM HARVEST CASSEROLE

2 cups cut-up stewed chicken (reserve broth)	1 pkg. (8 oz.) noodles
1/4 cup chopped onion	2 tbsp. chopped pimiento
1/4 cup chopped green pepper	1 cup frozen peas, thawed
1 can (2 oz.) mushrooms, sliced (reserve liquid)	1/2 cup pitted ripe olives
1 tbsp. butter	celery salt, salt and pepper to taste
1/2 cup olive liquid	1 cup grated sharp Cheddar cheese

Heat oven to 325° (slow mod.). Sauté onion, green pepper and mushrooms in butter. Add liquid drained from mushrooms and olive liquid to chicken broth (free of excess fat) to make 4 cups liquid (add water if necessary). Bring liquid to boil and add noodles. Cook about 10 min., until tender. Stir in the cut-up chicken, sautéed vegetables, pimiento, peas, olives and seasonings. Pour half the mixture into a 1 1/2-qt. baking dish. Sprinkle with half of cheese. Pour in remaining chicken mixture and top with rest of grated cheese. Bake covered 45 min., uncover and bake 15 min. longer. 4 to 6 servings.

#### Success Tips:

1. Stir noodles frequently in the boiling chicken broth to prevent sticking.
2. Be sure excess fat is drained from chicken broth, especially if stewing chicken is very fatty.

A meal-in-itself family size casserole dish... easily made the day before and baked while preparing salad and dessert

In support of the National Macaroni Institute's "A Salute to the 50 States," General Mills and Betty Crocker proudly offer you and your customers this successful new casserole creation inspired by farm kitchens of the Midwest. Farm Harvest Casserole has been exactly tested in the Betty Crocker Kitchens and in typical homes in the Midwest. We're certain it will be still another indication to your customers of the imaginative, easy, *delicious* ways they can serve Macaroni products.

As a leading producer of the finest Semolina and Durum flours, General Mills is happy and proud to serve the macaroni industry. Look for more recipes from Betty Crocker in our Macaroni U.S.A. program to help you increase your profits through the increased use of your products.

For more information on this new Betty Crocker recipe program, ask your Durum Sales representative or write...

**DURUM SALES**

MINNEAPOLIS 26, MINNESOTA

