THE MACARONI JOURNAL

Volume 52
No. 3

July, 1970

Macaroni Journal

OFFICIAL PUBLICATION OF THE NATIONAL MACARONI MANUFACTURERS ASSOCIATION

JULY, 1970

66th ANNUAL MEETING HEADLINERS

Gloria McGinnis

Food and equipment editor, Woman's Day Magazine, heads a staff of seven home economists, will talk on "Educating Consumers."

Dr. D. Mark Hegsted

Department of Nutrition, School of Public Health, Harvard University, will discuss "Improving Our Nutritional Image."

Robert H. Kastengren

Executive vice president, Runzheimer & Co., management consultants to business on travel expenses will have tips on controlling costs.

Full Convention Program Appears on Page 24.

The

Macaroni Journal

July
1970
Vol. 52
No. 3

Official publication of the National Macaroni Manufacturers Association, 139 North Ashland Avenue, Palatine, Illinois. Address all correspondence regarding advertising or editorial material to Robert M. Green, Editor, P.O. Box 336, Palatine, Illinois. 60067.

Subscription rates
Domestic .....$6.00 per year
Foreign .....$7.50 per year
Single Copies .....$1.00 each
Back Copies .....$1.00 each

In This Issue:

The Macaroni Journal is registered with the U.S. Patent Office.

Published monthly by the National Macaroni Manufacturers Association as its official publication since May, 1919.

Second-class postage paid at Appleton, Wisconsin.

WHY WE ARE HERE

by Weems L. Clevenger, Director, FDA Region II, New York, at the N.M.M.A. Seminar on Good Manufacturing Practices

TOMORROW always comes, so plan for it. Stop and think a minute about how fast things move. From the beginning of man until 1950, man attained a speed of 740 miles per hour. From 1950 to 1959, he attained the speed of 17,400 miles per hour. Sixty percent of knowledge today was learned within the past twenty years. This involves drastic, rapid change.

Communications

This brings up the factor of communications. Communications is a two-way street. The government has things to learn from industry, and industry has things to learn from government. But remember there are three levels of communication. The first is that of supervision—that is, the transfer of understanding. Agreement does not necessarily get performance; and performance is the end objective. The second level is the acceptance of the agreed responsibility. But real communication, the third level, is the determination to achieve the agreed responsibility.

I hold to the premise that people want to do a good job. People like to be accepted, recognized for good work. I suspect that most of us here today are managers. A manager is anyone who is responsible for at least one other person's output. Managers make things happen. A manager's job is to get things done through other people. People must work to produce anything of value, and these people must work for profit. To make a profit doesn't just mean to bring in more money over a short term than we spend for producing a product. Long-term continuity is one of the essential elements of a successful business.

Our design to help you insure this long-term continuity which is essential for a profitable, growing concern consists of four elements: (1) the law, within which the firm operates; (2) the plan, which the firm has; (3) an operational policy; and (4) ethics.

Planning

The benefits of planning are these:

- It forces a recognition of change and problem identification.
- It provides the framework for practical programs.
- It promotes the proper allocation of resources.
- It provides commonly agreed on goals.
- It measures performance versus expectations.
- It improves communications.

The obstacles to planning are these:

- Insufficient commitment by top management pressed with day-to-day duties.
- Lack of objectivity.
- Political or business uncertainties.
- Difficulty in setting objectives.
- Lack of documentation.
- Lack of communication.
- Lack of follow-up and control.

Quality Assurance

The institution of quality assurance combines two of the three main types of planning: project planning and operational planning. In initiating a quality assurance program, team involvement is usually necessary to devise specific goals that meet your objectives and also to devise schemes for evaluation as to whether or not the objectives were met.

When the program is established, planning shifts to the operational type of planning. This involves management with a responsibility to control. Remember, people do what you **inspect**, not necessarily what you **expect**. Personal involvement of the top executives, understanding of those principles by the junior executives, and patience are the requirements in planning.

You are here to communicate, with a view to change. I think I will get no arguments when I say that it is much more pleasant to be exposed to the education and surroundings such as this, than if it were in much more sullen surroundings and the teacher wore a black robe.

THE WEE BEASTIES

by Anthony Duran, Microbiologist, FDA, New York District

THE world of the wee beasties consists of bacteria, yeast and mold. These microorganisms are capable of a great economic importance in the manufacture of a number of products. They can also cause disease and economic damage.

During this discussion, we will restrict ourselves to the discussion of three bacteria: Salmonella, E. Coli, and Staphylococci. There are over 1200 species of Salmonella, each capable of producing salmonellosis, and one of them producing typhoid fever. Its presence in food cannot be allowed.

Salmonella

The main source of Salmonella in the macaroni industry is contaminated eggs and yeast. Coliforms are indicator organisms present in the soil and in the intestinal tracts of man and animals, and an increase of its presence in a product indicates some insanitary conditions. E. Coli, a member of the coliform group, is an intestinal inhabitant of man and animals. Its presence in a product denotes the presence of fecal pollution. Cocci are a group of organisms which are present in the skin and nasal passages of all human beings. They are round in shape, resistant to heat treatment, and they have the unique ability of producing a kind of toxin that will survive after the organism is destroyed.

Once a bacterium gets into a product, it can do one of three things. It can remain stable, it can increase in number, or it can die. In order for an organism to increase in number, it must have the proper environment. Proper environment means nourishment in the form of protein, carbohydrates, and fats. All of these are present in eggs and flour. It needs the proper pH—that is, the proper hydrogen and iron concentrate. Bacteria grow best at 6.5 and 7.5. Macaroni products are around 6.8 to 7.2, well within the range of optimum pH. Bacteria grow best within the temperatures of 68° to 113° F. E. Coli and Salmonella have the ability to grow at as low as 45° F. and as high at 114 to 115° F. However, the optimum growth range is 86° to 98.6°.

(Continued on page 6)

The Wee Beasties—

(Continued from page 4)

Organisms must also have moisture. Bacteria need a minimum of 18% water, yeast 15%, and mold about 20%. Of course there must be a time factor involved here also. The length of time that it will take an organism to grow is dependent upon the other factors in the environment. Each organism has a generation time—that is, the length of time it will take under certain conditions to multiply itself, or to double its number.

Common generation times for the common organisms are: E. Coli, 12.5 minutes; Salmonella, 23.5 minutes; and Staphylococci, 27.3 minutes. In other words, once Salmonella is introduced into a product, within eight hours you will have over 65,000 Salmonella. It is quite rapid. Within ten hours it will give you over a million. As we can see, all the organisms of interest in this industry are all under 30 minutes generation time.

Development Stages

The population will develop under different stages. We have the lag stage. Here the organisms are tooling up for rapid development; cells are enlarging; they are manufacturing protein, amino acids, and are getting ready for division. The length of time of this lag stage is dependent upon (1) the organism that was introduced; (2) the stage of its development when it was introduced to the product; (3) the type of medium that the product is composed of; and (4) the size of the number of organisms introduced into the product. This lag time can last from either one-half hour to as much as 15 hours.

This is followed by a very rapid increase, which is known as the log stage. At this time bacteria are doubling at their maximum rate. The log stage can be continued on indefinitely as long as moisture, nutrients and stirring continue. This means that in any continuous batch operation, if conditions are such that bacterial growth will occur once log stage begins it will be continuously maintained.

Then there is the stationary phase. At this time there are an equal number of bacteria being produced as there are dying. The population is in equilibrium. The factors affecting this stage is the limit of the food supply, the accumulation of toxic waste, the temperature, the oxygen uptake, the organisms themselves, the introduction of new raw materials, and crowding.

If the environment stays stable for a number of hours, the culture will begin a rapid decrease of its own. We know this as log death or log thermo-death. And eventually it will level off at a stationary stage, and it will maintain itself at this stage from weeks into—sometimes—even years!

Especially important in the food industry is the lag phase. By lengthening it as much as possible, you are able to control the number of organisms. There are different ways that this can be done:

(1) You can introduce as few as possible into your product.

(2) You can avoid the addition of any actively growing organisms.

(3) You can create an unfavorable environment either by increasing the temperature or reducing the moisture.

(4) You can cause actual damage to the organism by methods in the processing.

Optimum Conditions

The production of macaroni and noodles is such that optimum conditions are present for microbial growth. The product is composed of flour, eggs and water, which immediately introduces the two main ingredients in bacterial growth: nutrients and moisture. As stated before, the pH stage of eggs, water and flour is in between 6.8 and 7.2. The moisture content of the dough is high at around 30 to 35%; remember, bacteria need only 18% at which time they can take off.

The main potential danger comes from the eggs used. Normally when frozen eggs are to be used, they are left to thaw, and once that has occurred an egg/water mixture is produced. These mixtures are housed for the most part around 70 to 80° F. If eggs are left at this temperature for any length of time, you will be introducing into your product a bacterial population which may be enlarged.

This is followed by the egg, water and flour all being brought together in the dough mixers. In order to obtain the proper consistency, the water temperature used is around 100°. If you remember, the optimum temperature for Salmonella growth is 98.6 to 99°. Unless water is below 41° F., you will have some bacterial growth.

The conditions that are optimum for bacterial growth (i.e., nourishment, pH, temperature, and moisture) are present in all macaroni products. If we add to this time, either due to a breakdown in the process or to an abuse, the potential of rapid bacterial growth will become a reality.

Growing Process

Let us now consider the growing process which all of your products have undergone. Heating will destroy bacterial cells .However, in order to get an absolute and total kill, you must have 150°C. or 250°F. for two hours. At a 1% moisture content, Salmonella will be destroyed after 4 or 5 hours at around 175°F., or 17 hours at 158°F. A further example of the ineffectiveness of destroying microbial growth can be seen from a thermo-death pan of E. Colli. It takes 20 to 30 minutes at 135°F. to kill E. Coli in a liquid culture—in a raw culture.

Another factor we must consider is that if the moisture content of the product decreases, the heat resistance of the microbial flora increases, so that if it takes E. Coli 30 minutes to die at 135° at 100% moisture when it is most susceptible, at 30% moisture the time should be tripled. It should remain for 10 or 11 hours. In many cases, as the moisture decreases, the organisms are not destroyed but are preserved.

A third factor to be considered in the drying process is that for about 50% of the drying time the moisture and temperature levels are sufficient to be at optimum temperature and moisture levels. Macaroni products usually have a moisture content of about 13%. We begin around 30%, since that is the standard reference. It could be higher or lower. After 2½ hours of drying, the moisture content is now 21%, the temperature is 117°, not at optimum, so that bacterial growth can occur. At 10 hours the moisture content is 15% below what bacteria needs. However, at 8 or 9 hours, the moisture content comes out to about 18% where you are maintaining a product which has all the ingredients necessary for rapid bacterial growth, for 7 hours is a very good incubator. This is the potential that you will have to be concerned with.

To Control Quality

In order to achieve a quality product, quality ingredients with bacteriological controls must be used. Raw materials should be, and must be, tested for Salmonella, Coliforms, E. Coli, Staphylococci and Total Plate Count. Total Plate Count is an indication of how good a product you have. The industry must develop and establish guidelines for Coliforms, E. Coli, and Total Plate Count.

No guidelines can be developed for Salmonella or Staphylococci, because of their pathogenic nature. Different stages of production should be sampled and analyzed, to see if there are any significant increases in count over those which were introduced in the raw materials. This type of sampling will allow the

(Continued on page 8)

The Wee Beasties—

(Continued from page 6)

identification of trouble areas, dead spots, and points in time and temperature abuse. Your major problem for bacterial growth will be abuse in time and temperatures. Periodically persons not familiar with the day-in and day-out operation of the plant should inspect and make a report as to what conditions are and what employees' practices have become.

Your insurance dictates, among other things, written procedures as to the frequency of cleanup and the procedures to be followed in cleanup and sanitation of all machinery. Static areas should not be allowed to remain on any piece of equipment, especially equipment that contains eggs or an egg product. All egg equipment should be cleaned and sanitized daily. Floors should be kept clean of dust, wet macaroni and noodles, excess moisture, or general paraphernalia.

Thaw Eggs at 41°

Eggs should be thawed at or below 41°; at 41° you will have no bacterial growth. At no time should egg or an egg/water mixture be allowed to stand for any length of time at room temperature.

Rejection of any raw materials that do not meet specifications, and the periodic upgrading through testing of raw materials specifications, are necessary.

If it is possible to return a re-cutting to the batch with no delay whatsoever, it might be worth the risk. However, it is a risky process. Returned goods, or goods that for some reason or other have been unacceptable after drying, should be treated as a raw material and re-tested to find out what went wrong. All finished products should be sampled and analyzed to ascertain if a minimum standard of quality has been achieved.

Lastly, and probably the most important, is the total commitment of management for the production of a quality product. You must begin with quality ingredients in order to achieve a quality product. Do not depend on a laboratory to be able to discover which of your final products contain any bacteria.

Long Life

D. Maldori & Sons, Inc., diemakers in Brooklyn, New York, report that they recently received a die manufactured by them in 1923. The die was repaired and is performing in an excellent manner—47 years of service!

THE BIG BEASTIES

by Kenton L. Harris, Consultant, Food and Drug Quality Assurance, Bethesda, Maryland.

I WOULD like to bridge the gap that may exist between what we know about the technical problems and the problems you men have to face in running an organization.

The main reason for being interested in insect fragments and rodent hairs is not that these particles will hurt you (although some of them are quite repulsive); but they are indices of insanitation. These particles tell a story to the analyst the same as they do for the FDA inspector when he is in your plant.

Set Procedures

There is a technical problem facing all of you. Where does management relate to these big beasties? I think it is incumbent upon you to set up procedures whereby your product has a small chance to have in it rodent excreta. If I were working on this from your standpoint, I would require certain guarantees from your suppliers. I would want to know what their specifications are for the purchase of wheat. Wheat can have rodent pellets in it. Rodent hairs may come through into the product that they sell you, and you no longer have a fighting chance to do anything about it. If your supplier buys wheat that has weevils in it, they are going to supply you with materials that contain insect fragments.

Now you are the one who has a public relations problem and an FDA administrative problem that should have been cut off before the product ever got into your shop. I would require your suppliers to tell you what their specifications are, and I would want them to show you what their specifications are. After they have done this, then have them prove it. I would want to see their analytical results, their patterns of examinations of the raw materials, and so on. I would require that the materials being delivered to you are in as clean a condition as is commercially practical.

I think that your suppliers have an absolute requirement to deliver the goods to you in a clean condition. I think that if there are any insects in the raw materials delivered to you, then that shipment should be sent back. If there are free living insects in the boxcar or in the trailer, then you have a more difficult problem. Certainly if a boxcar has mice living between the walls, then you have a legitimate excuse to reject the shipment. If you don't, you're in trouble.

If your supplier is able to take that shipment and make it right to your satisfaction, that is something between you and him. But none of this will happen if you only expect it at the technical level. There has to be a company policy that recognizes rodents, rat droppings, insects, insect parts, as something that management does not want. Then, from there you can work out with your technical pepole the means to keep this type of contamination out of your finished goods.

Information Available

There exists in your industry a tremendous amount of information concerning inspection results: what is practical; analytical results; what the findings are. It would seem that you have within the industry the information to set up rodent/insect requirements for purchasing, for maintaining your own industry, for distributing. Because the insect problem certainly does not stop in your plant. When your package is opened by the housewife to find insects in it, you are at fault. It is your label that really suffers.

So, I say you have a duty to store your cartons in sanitary conditions; to provide cartons that are relatively impervious to insects; to see that they are shipped out under clean and sanitary conditions. Many of you exercise a degree of surveillance over the warehouses. I think it is just good business. It's good to maintain this type of control as your product flows through your plant and out to the ultimate consumer.

Find Trouble Spots

In working on the insect and rodent situation, you can spend a great deal of money accumulating information, organizing investigations that will go to the heart of problem areas and how to solve them. You should put your technical information together to see if it points to a trouble spot (and I think it will), and then get to work on the trouble spots. I believe that most of your plants are in reasonably good shape. Look at the data; it has been put together in such a way as to unearth problems.

Do we all know the real meaning of rodent hairs in finished product? Do we know that rats lick themselves and swallow their hairs, so that the rodent hairs are a part of the pellet? Do we

(Continued on page 10)

The Big Beasties—

(Continued from page 8)

know that we can take insect fragments and identify them to the actual species involved? That the type of insect may, or may not, be your fault?

Let me throw out a few scares. I am relatively sure from the nature of the feelings around Washington that we are about to embark on an upswing in the public interest in clean foods. It relates to pollution, to Nader's Raiders. It relates, believe it or not, to findings of a major northern university that there are aflatoxins in macaroni. I know that the findings of aflatoxin are very, very low. But a recommendation from me is that you put into effect, from top management clear down through the company, programs that will head off the blows that are going to come during the next six months.

Nader has already picked a group of young people who are investigating food contamination and regulations as they are being enforced by the FDA. I think they are doing a good job. These people are going to come up with criticisms, because that is the nature of the operation. I think that the sooner you can head this off, get the facts together, just keep your house in order, or get it in better order, so you have something to fight this guy with when he comes out with it, the better off we all will be. If there are weak spots in your operation, then it is a lot more difficult to stand up in public and defend yourself.

Mop and Broom

I am a mop-and-broom man myself. And I go one-hundred percent with the idea that you can do a lot of sanitizing with detergents and water, with a good clean floor. I look upon insecticides as an additional help to make the job a little easier, but no more or less significant than adding detergent to water or mopping instead of sweeping. I do feel that there is a definite requirement that the vehicle that brings the raw material to you has been adequately treated, because this vehicle was dirty before it was loaded.

To me, your contamination can come from the wheat, the mills, in transport to you. It can come from air, either where it was milled or from your own air. It can come from the kitchen too, but you will also get blamed for this.

An operational manual is essential. In it should be requirements for cleaning. Operations manuals should be carefully prepared in relation to those people in maintenance who are going to have to put these practices into effect.

More Iron Urged

The Food & Nutrition Board of the National Research Council has called for expanding iron enrichment in cereal products and the upgrading of enrichment standards. This conclusion was reached following the Department of Agriculture's findings of inadequate dietary iron intake.

The Board recommended "the standards of identity for flour and bread enrichment be changed to permit the addition of no less than 40 mg of iron or more than 60 mg per pound of flour and no less than 25 mg or more than 40 mg per pound of bread. The desirable goal is a minimum of 50 mg of iron per pound of enriched flour and 30 mg of iron per pound of bread."

It further recommends "that wherever technically feasible, enriched wheat flour be used for the preparation of specialty bakery products, which are now enriched. The standards of identity for enrichment of corn meal, corn grits, rice, farina, macaroni, and noodle products be changed to permit the addition of no less than 40 mg and no more than 60 mg per pound."

The Board, however, would not support the widespread enrichment of a large variety of different food items. It believes that "the recommended increase in the iron enrichment of cereal products could be expected to raise the amount of iron in the American diet by approximately 5 mg per day." It recognizes "that there should be an evaluation of the effectiveness of such increased cereal enrichment in meeting the needs of all population groups."

Consumer Confusion

A significant portion of the public is confused about the value and proper role of vitamin and mineral supplements, fortified foods, and foods for special diets, concludes a survey done for FDA by Day & Zimmerman Consulting Services.

Day & Zimmerman concluded that there is a "substantial need for revision of the currently effective standards of identity and informative labeling requirements" to help the consumer select those items more intelligently.

In all three areas studied—fortified foods, vitamins-minerals, and foods for special diets—"individual concepts regarding actual or intended use of the various products . . . varied to the extent that a significant percentage of the public was found to be confused, misinformed, or uninformed of the true (intended) value of the product."

The survey found that specific label declarations influence the purchasing habits and beliefs of the general public. Contradictions were evident in varying degrees whenever a label declaration was asked to be interpreted or compared.

Of those who buy fortified foods (71%), 34% said they buy the food because it is fortified. A similar 34% said they did not know what was meant by the word "fortified."

Day & Zimmerman's questions covered fortified cereals, juices, peanut butter, bread, in addition to vitamin and mineral supplements.

Proposed "Cents-Off" And Coupon Rules

The Food & Drug Administration has published proposed regulations governing the use of "cents-off" label statements, coupons, other savings representations, including those relating to package size.

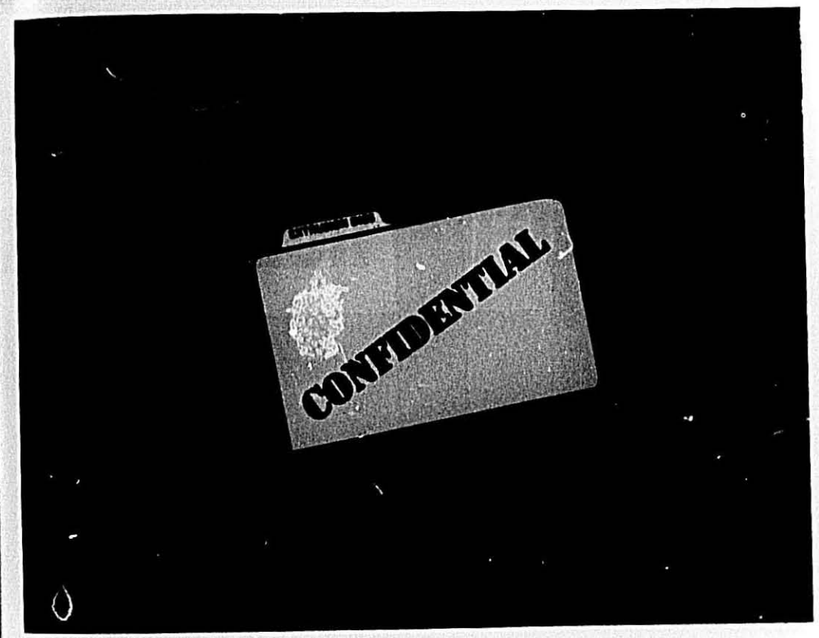
The proposed rules are quite complex, but they are basically intended to insure that a promised saving or price reduction is bona fide. One requirement is that cents-off labeling indicate "regular price," "cents-off" and "price this package." Other rules apply to the length of time a savings representation may be carried before it becomes the regular price, the permissible frequency of reductions on the same article, and the use of redeemable coupons.

Another section of the proposed regulations deal with "economy size" designation or representations. In this case again, a retail level pricing statement must show a price per unit of weight, measure, or count, or a statement of savings per unit over the next smaller size.

ICC Action

The Interstate Commerce Commission adopted a schedule of incentive per diem charges intended to alleviate the box car shortage. The basic per diem is the daily rental a railroad pays for the use of non-owned or "foreign" cars. The incentive rates, above the basic per diem, could range upwards to $12.98 a day. The new rates apply only to unequipped box cars, to time and not mileage, and only during the period of September 1 of each year through February of the following year.

Thy life is no idle dream, but a solemn reality; it is thine own, and it is all thou hast to front eternity with.—Carlyle.



Millers' National Federation Convention

THAT the decade of the 1970's poses possibly the greatest challenge American flour milling has ever faced was indicated in many different ways and by different speakers at the 68th annual convention of the Millers' National Federation in San Francisco this spring.

The keynote to the excitement of the future was provided by the newly-elected chariman of the Federation board of directors, Howard S. Holmes, when he said, "The country today is undergoing considerable turmoil and change." He then reviewed some of the basic developments that could affect the future of milling—actions by government, consumerism, attacks on established institutions and the growing efforts to develop new sources of food. Although he viewed these as potentially negative forces, he also cited the current interest in "good nutrition" as a tremendously positive force. "What an opportunity for increased use of our products," Mr. Holmes observed.

P. Norman Ness

"Newness" Not Needed

"Newness" as such also received major attention from P. Norman Ness, retiring chairman of the Federation. "There is one thing that we don't need in this industry," Mr. Ness stated. "That's more experience. We need more knowledge and more creative new ideas. We need the ardor and conviction and objectivity that new minds can bring. And last, but certainly not the least, we need enthusiasm for our industry."

Both Mr. Ness and Mr. Holmes, president of Chelsea Milling Co., Chelsea, Mich., gave considerable attention to events that prompted the latter to say, "I doubt there has been any other time when conditions favorable to sound business and sound growth were equal to those existing today." That conclusion largely was based on statistics that clearly indicate an economically healthy equilibrium between flour supply and demand." That equilibrium, Mr. Ness said, "has whipped out from under us one of the crutches we have leaned upon for years as an excuse for poor performance."

Mr. Ness and Mr. Holmes also stressed the importance of the Federation itself to the well-being of the flour milling industry.

Rising Aspirations

That a dramatic turn in the economic environment for business is in the offing was made quite clear by Dr. George L. Bach, Frank E. Buck Professor of Economics and Public Policy of Stanford University. He surmised new and more profound changes in the future, and said, "The biggest problem facing business in the environment of the 1970's will be the rising wave of aspirations—at local, regional, national and international levels." His reference was to air and water pollution, problems of hunger and poverty, urban blight and unemployment.

Farm Bill

John Harms, a Kiplinger editor, said that the coming new farm law will mark the beginning of the end for traditional farm programs as well as providing for the eventual dismemberment of the Department of Agriculture, at least in its present form.

Two challenges for millers were cited in a panel discussion. The principal concerns noted were that price support and acreage control programs, especially the set-aside, may sharply curtail production of important classes of wheat in some parts of the country and, at the very least, may cut into plantings of wheats needed to mill the type of flour required by the domestic baking industry. The answer to both problems involved assuring that growers receive adequate prices for the qualities of wheat needed and that various government programs are established so as to provide a drastic disincentive to production of food wheat in favor of feed wheat.

Several of the panelists also touched on possible contract production of wheat by millers in the 1970's, and several expressed doubt as to whether that approach has any merit for the milling industry.

Transportation and Pollution

The difficulties of rail transportation as that industry enters the 1970's were presented by Ray Smith, assistant vice-president-tariff, Soo Line, Minneapolis. He summarized, "The railroad industry is in trouble; and if we are in trouble, your industry with its very strong reliance and orientation toward railroad transportation, is also in trouble.

Mr. Smith concluded, "Improvement in net income will have to come from higher prices for its product, and from a continuation of the efficiencies in production which we have demonstrated but which must be found in the future at an accelerated rate."

The problem of air pollution received considerable attention. Millers were challenged to plan constructively for future development with a view toward reducing pollution. Dr. Rolf Ediassen of Stanford suggested millers might actively consider locating more mills in areas of low population. He noted that 2 to 15 percent of future capital expense on new plant and equipment would be tied to pollution control.

Nutrition and Supplies

Dr. Gerald F. Combs, deputy director, Nutrition Program, National Center for Disease Control, gave an address which carefully noted moves already undertaken by a number of major breadstuffs companies to add enrichment where practicable. He cited the problem of iron enrichment as particularly relevant to milling and baking in view of current industry discussions and noted that the National Nutrition Survey showed much of the population has unacceptable levels, regardless of income.

Carl C. Farrington, for many years chairman of the Federation's Committee on Agriculture, and who is now deputy administrator, Commodity Operations, Agricultural Stabilization and Conservation Service, predicted there would be no substantial sales of C.C.C. wheat during the coming year; he did observe that some classes or qualities, possibly including soft red wheat and durum, "may be in short supply." Should this develop, Mr. Farrington assured his audience, "You will have full information about our minimum prices and assurance that C.C.C. will be a willing seller at the market price when the market price for a particular quality of wheat exceeds the announced minimum price at the storage location."

William Sheehan, vice-president and director of television news for the ABC Network, presented a comprehensive analysis of the problems raised by recent public debate. He expressed concern particularly over challenges to freedom of the press, noting that that freedom is guaranteed in the Bill of Rights, not to protect newspapers and other communications media, but to protect the public at large. He also described as "bogus" the challenges of showing "good" or "bad" news as influences, but said recent surveys indicated that two-thirds of the people in the United States receive their first impression about news from television.

At the closing banquet of the convention P. Norman Ness was signally honored for his service to the industry. Howard S. Holmes, Mr. Ness' successor as chairman, presented his predecessor with a new golf bag and a complete set of golf woods and irons, along with a special "testimonial of appreciation."

Late Planting

A cool wet spring has delayed planting of durum and hard red spring wheat in the Dakotas.

Field work did not start until the first of May and was delayed by cool, rainy weather until mid-month. Then seeding made good progress when a few dry days came along. Warm temperatures and strong winds accelerated field drying but the winds caused some blowing of topsoil.

At the end of May in North Dakota seeding was just getting under way in the northwest. In the dried southern areas, many farmers were winding up small grain seeding and starting on row crops. Wild oats appeared to be unusually bad this year and many farmers were reworking the ground to get better control.

About half of the hard red spring was planted at month's end while about one-third of the durum crop was in. Best progress for durum was made in the southwest while the main durum area only had about one-quarter of the acreage seeded.

Once planting is completed, progress should be good. Topsoil moisture is adequate to plentiful in half of the state. Subsoil moisture is also good. A year ago the entire crop was in by June 1.

ASCS Wheat Take-Over

The Agricultural Stabilization & Conservation Service will redeem 35,500,000 bushels of hard red spring wheat in North Dakota and take delivery on 43,650,000 bushels. An estimated 60% will be durum. There is a question where storage for the delivered wheat will be found.

Canadian Caution on Durum

Canadian farmers who delivered durum wheat to the Canadian Wheat Board will receive a special payment averaging 26.3¢ per bushel. The payment is based on the amount of premium durum brought on the world markets and should total $6,555,614. However, the Canadian government warned farmers against sowing durum this year.

Good Demand for Hard Red Spring Wheat

Charles A. Nelson, marketing specialist of the North Dakota Wheat Commission, notes that with the final quarter of the crop year remaining, exports of hard red spring wheat could hit 85,000,000 bushels (not including flour exports) compared with 77,000,000 last year. If flour exports are included, it would raise the total to 90,000,000 bushels. Most of this is cash business.

Adding domestic demand of 135,000,000 to the 90,000,000 exports and total requirements for the year will be 225,000,000 bushels. The 1969 crop was only 187,00,000 bushels so carry-over will be down sharply.

Durum on the other hand, should see exports of about 36,000,000 bushels compared to last year's 46,000,000. Domestic demand takes about 40,000,000 bushels so carryover July 1 will be a record breaker.

Planting intentions in North Dakota show durum down 26% while hard red spring wheat is up 10%.

Dr. Gilles Visits Europe

Dr. Kenneth A. Gilles, vice-president for agriculture at North Dakota State University, will be on special assignment this summer on behalf of Great Plains Wheat, Inc. He will visit millers, cereal chemists and other technical personnel to tell them about hard red spring wheat.

Arlin B. Ward, professor of milling technology at Kansas State University, is making a similar trip to tell the hard red winter wheat story.

Peavey Promotions

Peavey Company has promoted two individuals in its Flour Mills operations.

The appointment of Robert H. Cromwell to the company's executive durum sales headquarters in Minneapolis is announced by E. E. Powers, vice president-marketing.

Cromwell has been associated with Peavey's flour marketing since 1948 when he started as a salesman in Birmingham, Ala. Subsequently, he was in flour sales management at San Francisco and Buffalo, N.Y. Most recently, Cromwell has been eastern district sales manager in Scarsdale, N.Y.

W. W. Wingate, vice president bakery flour sales, relates that Thomas F. Shaughnessy will succeed Cromwell in Scarsdale. Shaughnessy brings 17 years experience in baking technology and sales service to his new position as eastern district sales manager. His first job with Peavey was in 1953 as a test baker in the Minneapolis lab. From there he moved to Alton, Ill. where he was involved with mill operations and customer service. For the past three years he has been assistant manager of Products Control.

A D M Splits Stock

Archer Daniels Midland Company shareholders have approved a two-for-one stock split and an increase in common shares to six million from the two and a half million shares previously authorized. ADM directors also declared a quarterly dividend of 50¢ a share on 1,579,669 shares of company stock outstanding prior to the split.

Doughboy Changes Name

Doughboy Industries, Inc. will be known as Domain Industries, Inc. James H. Buell, president of the highly diversified company, said the new corporate name "would not affect in any way the Doughboy brand names as now marketed." Other divisions with different names would retain their present identity, he added. Mr. Buell said that management and the directors were seeking a name that would reflect the worldwide scope of the company's operations. Last year, Doughboy profits totaled $1,210,000 ($2.24 per share), highest in the firm's history.

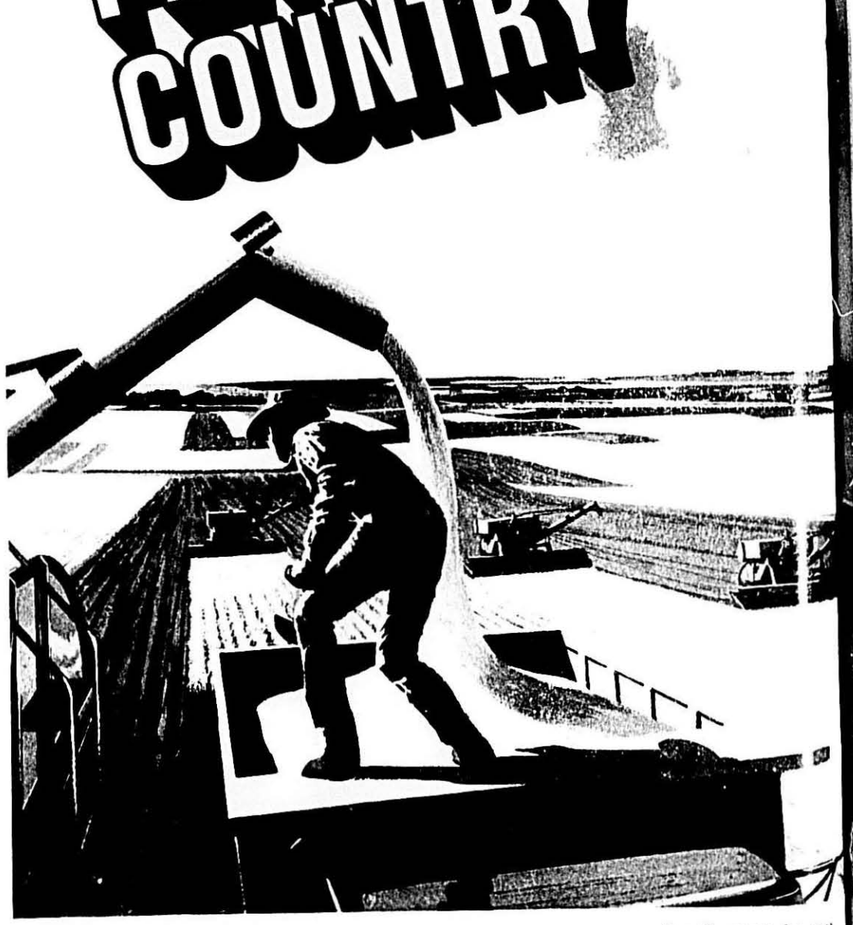
General Mills Hits Billion Dollar Sales Year

Chairman James P. McFarland has announced that General Mills has achieved its first billion dollar sales year and expects to report record earnings for the fiscal year ending May 31, 1970.

Pre-tax earnings are expected to be between $85.0 and $86.0 million, or about seven per cent above the $79.9 million restated for last year, McFarland indicated. After tax earnings before extraordinary items are predicted to increase by over two million dollars above last year's $38.1 million, up about six per cent to between $40.2 and $40.6 million.

We know at least one thing about a person who never makes mistakes—he can't be very busy.

PEAVEY COUNTRY



Source of America's finest durum wheat

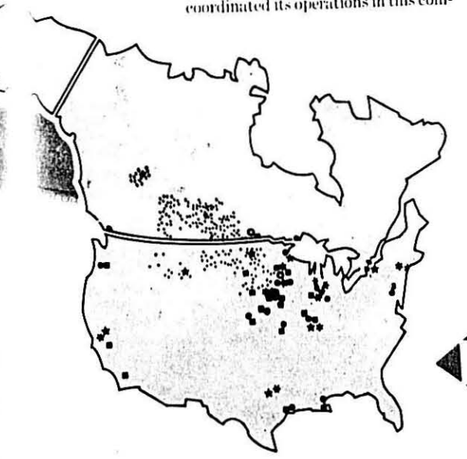
There is good reason for Peavey to be a major factor in the milling and distribution of durum products. The durum wheat fields of North Dakota —where the bulk of America's durum crop is grown — form the heart of Peavey Country (see map). This broad, wheat-rich land supplies the Peavey mills that specialize in the milling of Semolina and Durum flour.

Durum is important to Peavey. It receives great attention in the multitude of Peavey activities related to the growing, storage, transportation, merchandising and processing of cereal grains. Peavey has streamlined and coordinated its operations in this complex business to deliver the highest efficiency.

Peavey operates durum mills at Grand Forks, North Dakota; Superior, Wisconsin; and Buffalo, New York. Peavey Flour Mills process wheat received from 700 grain elevators located in the areas producing the finest wheat in the world. Peavey's total milling capacity is 60,000 hundredweights a day, much of it, of course, in durum.

No wonder spaghetti and macaroni manufacturers have come to rely most heavily on Peavey for their quality durum products. And it all starts 'way out in PEAVEY COUNTRY'.

King Midas DURUM PRODUCTS



■ Merchandising and commodity futures offices ● Terminals ★ Flour mills and mix plants ▲ Flour sales offices and warehouses ▽ Country elevator, feed and service facilities ◎ Home offices of Peavey Company and National Grain Co. Ltd.

PV PEAVEY COMPANY
Flour Mills

REVOLUTION IN AGRICULTURE

THE National Geographic Magazine recently published a pictorial report on the revolution in American agriculture.

Secretary of Agriculture Clifford M. Hardin was quoted as stating: "Through the decades before the Civil War, the American farmer produced food and fiber enough to feed and clothe himself and three other persons. A century later, when we entered World War II, new machines and techniques had helped inch the figure to himself and 11; today it has leaped to himself and 42. The superabundance from our fields comes from a dwindling number of farmers working fewer and fewer farms. This incredible productivity of man and land yields bumper crops that make surpluses a problem."

Actually, there have been three agricultural revolutions. The first came when man began substituting animal power for human muscles. The second brought machine energy to replace animal energy and put the fruits of research into application on the farm. The third, the farmer's adoption of skilled management techniques to capitalize on today's technology, still wears swaddling clothes.

Population Explosion

The revolution farmers have fashioned may even be a major weapon in the battle against one of the gravest problems facing the world: the population explosion. Earth's numbers now stand at 3.6 billion, and could double in 35 years. This mounting pressure against food supplies raises the specter of a famine more catastrophic than the world has ever seen.

Many view darkly the race between man's fertility and that of the soil. Others see hope in the fact that the land surface of the earth receives enough energy from the sun every day to grow —theoretically at least—enough food for more than sixteen times our current numbers.

Most of the world's farmers till the soil with methods little changed in a thousand years. The spread of modern agriculture can help assure the underdeveloped two-thirds of the world the freedom from hunger it gives the economically advanced one-third. It can help us buy time against world famine while we press efforts to control the mounting population.

Mexico used to import wheat, its farmers scratching only eight or ten bushels an acre out of their fields. Then a program supported by the Rockefeller Foundation crossed Mexican wheats with a dwarf Japanese strain. Slowly at first, then burgeoning, use of resulting varieties spread. In little more than a decade Mexico became a wheat exporter; farmers could brag of yields of more than forty bushels an acre.

Today 90 per cent of California's tomato crop is picked mechanically. Indeed, mechanization is one of the key inputs of America's agricultural revolution. The average farmer has more horsepower working for him than does the average factory employee. It helps him produce with each hour's labor seven times as much as he did 50 years ago.

Parade of Machines

An incredible parade of machines are at work today on U. S. farms: Tractors that in an hour can plow a hundred times as much land as a farmer with a string of oxen. Self-propelled combines that permit a man to ride in an air-conditioned cab to harvest a crop of corn that used to take a crew of 80 hands. Monster road-building machinery to level terraces or shape rice fields. Helicopters to spray cucumber fields. In all, such a host of devices that today U. S. farmers are investing eight times as much capital as they did thirty years ago.

In South Dakota, 74-year-old J. D. Davis, a custom combiner working on contract for wheat growers, said: 'I've been doing this for 39 years. The first machines I owned were like toys compared to this thing. Then, 20 acres was a good day's work. Today one combine can cut more than 100.

"I started with one combine. Now I have six. Growers keep increasing their acreage, and so I have to expand."

Broiler Business

In Georgia, Ralph D. Mobley declared: "Twenty years ago broilers sold for 65 cents a pound, and fried chicken was a treat for Sunday dinner. Most farms had a little flock that helped provide the farmwife with butter-and-egg money. Now chicken is cheaper than hamburger, and coops on the average farm are empty because the farmwife can buy dressed birds in the supermarket for less than it would cost her to raise them herself. The reason? Research and greater efficiency in the broiler business."

Automated feeders, waterers, ventilators, and other labor savers make it possible for one man to take care of 100,000 broilers at a time. The average producer handles about 20,000. Altogether in a year farmers in the United States raise more than two and a half billion birds—a dozen for every man, woman, and child in the population.

Economics of Eggs

In Egg City, 50 miles northwest of Los Angeles, Julius Goldman, one of the world's largest producers, has two million hens.

Julius Goldman got into the egg business in 1951. An immigrant from Germany, he invested in 5,000 chickens to have something to do while he polished his English enough to pursue his regular profession, metallurgy.

"In those days a farmer might make only a dollar or so a year per bird," Mr. Goldman said, "Now he's lucky to make half that. To gain efficiency, we had to expand."

Here is what expansion has required: A mill to produce the 250 tons of feed a day needed for the craws of Egg City's layers. Two wells to supply a daily demand for 100,000 gallons of water. A packing plant that cleans, inspects, and packages a million eggs a day. Block-long buildings, each housing 90,000 White Leghorns, cooped five birds to a 16-by-18-inch cage, and with row after row of cages suspended three feet above the floor.

Wire-mesh bottoms of the cages slant, so eggs when laid roll out to a collection rack at the front. Employees push carts down the aisles between rows, shoving them ahead with their chests, and loading the eggs onto plastic trays with both hands. A battery-powered truck moves along, pumping feed from a hopper into troughs before the cages. A dial indicated amounts delivered.

Mr. Goldman explained: "We keep track of the feed eaten and the eggs collected in two rows of cages among the 110 rows in each building. When production drops to the uneconomic point, all 90,000 birds are sold to processors for potpies or chicken soup. It doesn't pay to keep track of every row in the house, let alone individual hens; with two million birds on hand, you have to rely on statistical sampling."

Family Farms

The number of farms with annual gross incomes of $10,000 or less is dwindling. There are more in the $40,000 category, and they are increasing rapidly. The family farm figures largest in this growth. It accounts for 95 percent of all farms and 64 percent of total marketing. Corporate behemoths play no greater role today than 20 years ago; the specter of their progressively gobbling up all the farmland and in the end holding consumers at their mercy seems farfetched.

A Look to the Future

What will farming of the future be like? Dr. George W. Irving, Jr., research administrator of the U. S. Department of Agriculture, sums up a few of its facets:

"Agriculture will be highly specialized. Farms in one area will concentrate on growing oranges, those in another area tomatoes, in another potatoes —capitalizing on the competitive advantage soil or climate gives for a particular crop.

"Fields will be larger, with fewer trees, hedges, and roadways. Machines will be bigger and more powerful and able to do more operations in fewer trips across the land. They'll be automated, even radio-controlled, with closed circuit TV to let an operator sitting on a front porch monitor what is going on.

"It isn't difficult to visualize agricultural plots several miles long and a hundred feet wide. Equipment straddling the strip will roll on tracks or paved runways, swinging around at the end to work the adjacent plot without a wheel-touch compacting the soil in the cultivated areas.

"Weather control may tame hailstorm and tornado dangers," Dr. Irving adds. "Atomic energy may supply power to level hills or provide irrigation water from the sea. Satellites and airplanes overhead will transmit readings enabling a farmer to spot diseases breaking out in his crops more surely than he could by walking through the fields.

"Sensors buried in the soil will tell him when his plants need water, and automated irrigation systems will bring it to them. He may have at hand chemical means of speeding or slowing crop growth to bring harvests to market at optimum times. Such things sound fantastic, but already they exist in pilot form or in the research stage."

Dick Crockett Honored

Richard C. Crockett, executive vice president of the Greater North Dakota Association, has been named the fourth annual John Lee Coulter Achievement Award winner in North Dakota agribusiness. He was honored at a banquet of the North Dakota State University Agricultural Economics Club. His picture will be hung in the NDSU Agricultural Hall of Fame in the College of Agriculture in Morrill Hall.

"My friends! There are no friends."
—Aristotle

Durum Definitions

From the Durum Wheat Institute comes this glossary of terms:

Durum—a hard, amber-colored spring wheat used primarily in the making of quality macaroni, spaghetti and egg noodles.

Semolina—a coarse granulation of the durum wheat endosperm; by Federal definition—made by grinding and bolting durum wheat, separating bran and germ to produce a granular product of not more than three percent flour. A granulation of uniform size is considered best; by United States Standard, to pass through a 30-mesh, and be held on a 60-mesh sieve.

Granulars—purified endosperm, plus a higher percentage of flour than semolina.

Flour—finely ground durum wheat; generally used for making noodles.

Pasta—the Italian word for macaroni foods.

Macaroni—hollow tubes of various sizes, diameter and length, made by extruding a dough mixture of semolina and water through dies in which a center pin creates the hole.

Spaghetti—made the same as macaroni except the shape is cordlike, solid and generally of smaller diameter.

Noodles—strips, usually flat, rolled in sheets and cut into ribbons. By Federal definition, 5.5 percent egg solids must be added to the dough mixture as a specified ingredient.

Al Dente—meaning "to the tooth"; firm and chewy and cooked through—so there is no starchy flavor. It can be tested by pressing the cooked product with a fork against the side of a pan, or better still, by actually biting and tasting. To aficionados, "al dente" may mean that the product has a tiny, but hard, still uncooked, core.

Short Goods—after formation into desired shapes by different dies, a blade on the press cuts the extruded dough into short lengths. The product is caught on a moving belt that carries it into a series of dryers and finally delivers it to a packaging machine. Common short goods are elbow macaroni, shells and bows.

Long Goods—extruded dough is cut into longer lengths and caught automatically on racks that move it into a series of dryers and finally onto packaging machines. Common long goods are spaghetti and long macaroni.

Fewer Farms

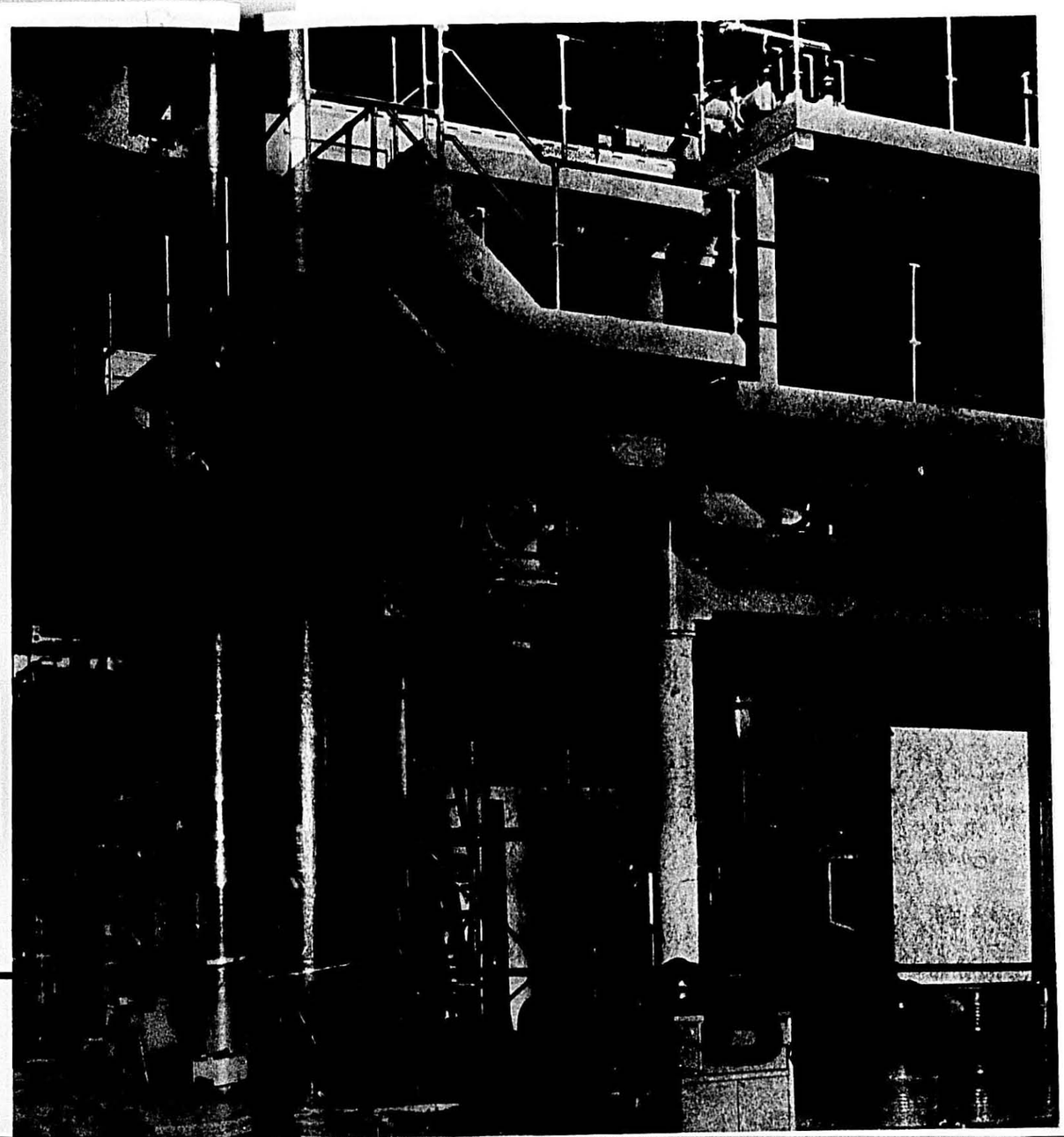
There are some 4,000 fewer farmers in North Dakota today than in 1968 according to the Greater North Dakota Association. There are some 41,000 farms today averaging about 1,000 acres each.

COBRA 4000

THE NEWEST PRESS PRODUCING MORE THAN

10000

Lbs PER HOUR



Braibanti

SOLE REPRESENTATIVE IN THE U.S.A. AND CANADA, WERNER - LEHARA INC.
60 EAST 42nd STREET NEW YORK CITY, NEW YORK 10017 - AREA CODE 212 MU 2-6407

Increased Egg Production Urged

Faced with the specter of cholesterol and declining per-capita sales, the egg industry is mulling ways to raise funds to promote the benefits of its product.

Industry members attending the 39th anniversary meeting of the Poultry & Egg National Board in Chicago heard Dr. L. A. Wilhelm, PENB president, outline several proposals for raising funds. He also described the costs of various types of advertising and publicity. PENB's budget is $250,000.

Dr. Wilhelm outlined programs that could raise from $500,000 to $5 million, from a modest advertsing schedule to what for the association would be a gigantic spree in network television. He also spelled out for the group how the funds could be raised, ranging from a levy of 1 cent per case on the four levels of the industry—hatchery, producer, packer-distributor, and broker-distributor-breaker, to a Federal marketing order that would make mandatory collection of a kitty for research and promotions.

Dr. Wilhelm's scope for fund-raising was exceeded greatly by a member of the PENB executive committee. Homer Hunnicutt, Jr., egg producer, Brooksville, Fla., suggested that the levy be one cent a carton of eggs which would give the PENB a promotion kitty of approximately $50 million a year.

Several members said they favored the Federal marketing order to gather funds for advertising and promotion. In this way, they felt there would be no drop-outs from the program.

Dr. Wilhelm explained that a Federal marketing order, similar to the cotton industry's, would be solely for research and promotion, which would include advertising. The Federal Government would collect the money and bank it. There would be strict accountability for the funds. In addition, a Government representative would attend all board meetings.

Marketing Order Easiest

Dr. Wilhelm conceded that a Federal marketing order would be the easiest way to collect promotion funds from everyone in the industry but he added that in his opinion the industry is not ready for it. On the other hand, he said, the current high egg prices may favor the automatic collection under a Federal marketing order.

The one-cent-a-case levy would produce $5,282,400 a year for promotional programs, Dr. Wilhelm said.

Fears of Cholesterol

The fears among consumers of the effects of cholesterol on the human system could be counteracted with developments of egg products that are lower in cholesterol and fat, according to O. A. Hanke, PENB consultant, Mt. Morris, Ill., who has been active in the PENB since its founding.

Mr. Hanke said products now on the market as Eggit produced by Olson Bros., North Hollywood, Calif., and Eggstra by Tillie Lewis Foods, Stockton, Calif., are low in fat and cholesterol. Eggit is a frozen egg product, while Eggstra is merchandised powdered and packed in an envelope.

Mr. Hanke noted that, although total egg production from 1951 is up 25 per cent, per capita consumption is down 20 per cent per capita consumption in 1951 was 392—today it is 314.

He recommended that PENB sponsor additional cholesterol research, or promulgate favorable information obtained by others' research.

Medical advice for one member of a family that egg consumption should be curtailed or eliminated has a tendency for the homemaker to stop serving eggs, Mr. Hanke said.

Mr. Hanke said the PENB staff has put together a proposed two-year program of research and education which would cost about $260,000. The advertising would be directed primarily at doctors, dietitians and nurses who would be reached through professional magazines. He believes the $260,000 expenditure should be in addition to the regular PENB budget.

Consumer Promotion

Since it is generally conceded that in the future most businesses dealing with consumer goods will be more dependent on promotions, there must be elimination of guesswork, according to George C. Iverson, Midwest sales manager, A. C. Nielsen Co., Chicago.

"This elimination of the unknown, i.e. risk, can be achieved by manufacturers when planning a promotion if they also include a good honest means of evaluating that program," he added.

"If the objectives are not related to the accomplishments, then there is no way of evaluating the efforts, Expenses cannot be justified and there is no basis to continue the program, change it or drop it," Mr. Iverson said.

The Nielsen executive estimated that 1969 total coupon distribution neared 18 billion, and was 16.5 billion in 1968. Approximately 1.6 billion coupons were redeemed at a savings of over $150 million in 1968.

Mr. Iverson told the group that over 50 per cent of the housewives usually use coupons.

He noted that almost 45 per cent of cents-off coupons for new and established products are distributed through newspapers, providing the necessary geographic and market selectivity. A product promotion can be directed to specific types of households most likely to use the product by use of special mailing lists, selected magazines, newspapers and now even through egg carton inserts.

"Distributing coupons by using egg cartons as the medium creates more market selectivity, even chain store selectivity within markets," the Nielsen executive noted. "This means the advertiser can coordinate product distribution with the egg carton promotion and any retail support, such as displays."

Mr. Iverson recommended that a manufacturer have his product in at least 40 per cent of the stores before he uses coupons, otherwise he short-changes himself and antagonizes customers.

The most common type coupon promotion used is the cents-off. The most expensive medium being used is mail, which also has the highest redemption rate, typically 15 per cent, he said. In-package and on-package follows with a redemption of 10 per cent, compared with 6 per cent for magazines and supplements and 3-4 per cent for newspapers, the least expensive means of distribution, he added.

Promote Fun

One of the prime reasons more eggs are not being used by homemakers is that there is no fun element involved in preparing them, charged John Cole, senior vice-president, Buchen Advertising, Chicago.

If the industry is unable to stimulate the consumer, Mr. Cole asked "how do you expect the retailer to be enthusiastic about eggs?"

He urged the group to spend more to promote eggs. "Why does the retailer feature margarine so often," he asked. Because the margarine industry spent $8.5 million in national consumer advertising last year, he said.

Underscoring the power of promotion and advertising, Mr. Cole said in the last 15 years consumption of canned peaches has almost doubled. "Compare those results with those of a product that's tried to compete without advertising and promotion—apricots. In the same period, consumption of apricots has declined about a million cases a year," he said.

Ballas Comments

Ballas Egg Products Corp. of Zanesville, Ohio have recently undergone extensive remodeling and expansion. They are now in full production and the outlook is for plenty of eggs for the balance of the year.

Ballas notes that storage holdings are very low, but with interest and operating costs so high, eggs will have to be very cheap to induce anyone to build up inventories until there is a change in the production outlook.

The albumen markets took a terrific beating from $2.50 a pound to the present $1.35 to $1.40. Pan drying costs, due to excessive labor, have forced it above spray albumen by 10 to 20¢ a pound. Labor costs are rising rapidly. There are many products in which pan dried albumen is essential. Ballas is heavy booked for the next several months.

Spray dried albumen business has been good. The large users have increased their usage but are buying on basis of needs rather than inventory. Business should hold steady unless there is a change in egg costs. Spray albumen will be more sensitive to the shell market than pan dried.

Egg yolk solids are moving well, but buyers are watching the albumen market hoping it will hold and that any further decline in shell eggs will be reflected in lower yolk prices.

At the end of May, Ballas observed they saw nothing bullish, but think the bears have been fed so we should see rather level markets for sometime.

Government Buys Eggs

In a month's time the Department of Agriculture has bought 7,434,000 pounds of dried egg mix. Weekly purchases have been as follows:

April 23, 1,098,000 pounds at .9349 to .95

April 30, 2,619,000 pounds at .8840 to .9191

May 7, 1,116,000 pounds at .8549 to .8799

May 14, 2,601,000 pounds at .8400 to .8623

Benincasa Observations

V. Jas. Benincasa Co. observes that the expectations that influence inventory policies can be better determined after the government terminates its egg purchases. Whether or not the termination will bring a downturn in the price of eggs will depend more on the use by consumers, since production should continue quite adequate for all needs. Decline in the rate of inventory accumulation in cold storage stocks of frozen eggs is a major influence on the market price. What is most apt to influence the market is the molting of birds but this can only be temporary influence on production.

Egg Production Up 1%

The nation's laying flock produced 5,909 million eggs in April, up 1% from April 1969. The flock averaged 317.6 million birds, up 2% from a year earlier.

Egg production was 2% above a year earlier in the South Central region, and 1% in the West North Central and South Atlantic. Production was about the same in the North Atlantic and the Western regions, but down 1% in the East North Central.

Increases in layers were 5% in South Atlantic; 4% Western; 2% South Central; and 1% in North Atlantic. The West North Central region was down 2%, while the East North Central was the same as a year earlier.

Rate of lay on May 1 averaged 62.4 eggs per 100 layers, down 2% from a year earlier, but up 1% from April 1. The rate was below a year earlier in all regions except the West North Central, which was unchanged.

Computer Installation

Gioia Macaroni Company of Buffalo has installed a Univac 9200 computer system for applications involving invoicing, sales reports, payroll processing, general accounting, general ledger, production control and automated purchasing. Gioia has an annual sales turnover of approximately $4,000,000.

Noodle and Cheese Dinner

Kraftco has introduced Kraft Noodle and Cheese packaged dinner. The 6¼ oz. box retails between 29 and 35¢.

It is in a pink and white carton with a color illustration of a prepared dish of the product on the front, and directions for preparation on the back.

Support includes black and white newspaper ads beginning May 25 and daytime television beginning May 11 on Kraft's lineup of 26 shows covering 627 stations on the three major networks.

Merger Called Off

Grocery Store Products Co. and Kraftco Corporation on April 28 announced that they had decided to discontinue plans for a merger of the two firms.

Representatives of both companies indicated that while a merger would have served mutual interests, the Federal Trade Commission had determined that a merger of the two companies would be opposed.

Chicken Supreme

Lipton Chicken Supreme with Sherry has been added to the main-dish packaged dinners by Thomas J. Lipton, Inc.

It contains chicken, rice, sauce with peas and peppers, and a pouch of wine. The package provides two main dishes of approximately 11½ oz. each. Price: 79¢.

Support includes television on the Arthur Godfrey Show, Today Show and Tonight Show, and ads in Readers' Digest and Sunset magazines.

Lipton Promotion

John Polychron has been promoted to director of sales, Continental Division, Thomas J. Lipton, Inc., Englewood Cliffs, New Jersey.

Lawry's Foods Gains

Lawry's Foods of Los Angeles showed record gains for the first quarter of 1970. Sales were up 56.1%; net earnings increased 21.8%.

Ralph Frank, Jr., Appointed

Ralph Frank, Jr. has been appointed to the senior vice-president, a new post at Lawry's Foods. He was vice-president and creative director.

Leo P. Dardarian becomes a vice-president and continues in charge of corporate development and expansion.

Eggs are on the Plentiful Foods List.

66th ANNUAL MEETING

NATIONAL MACARONI MANUFACTURERS ASSOCIATION

Whiteface Inn, Lake Placid, N.Y.

Sun., July 19	Registration Desk open all afternoon, Sign-up for Tues. Golf Tournament.	10:30	**"Teaching Restauranteurs How to Prepare Macaroni Products,"** Eddy Prevost, Pres., Quebec Provincial Restaurant Association.
6:30 p.m.	Welcoming Reception, Sunset Lounge.	11:00	**"Grocery Industry Trends,"** discussion by panel of retail grocery representatives.
Mon., July 20	First General Session, Convention Hall	12:00	Adjournment.
9:00 a.m.	**"State of the Industry"** President Peter J. Viviano. Appointments of Convention Committees: Nominations, Audit, Resolutions.	**Tues., July 21**	1:00 p.m. Golf Tournament.
		6:30 p.m.	Suppliers' Social at the Golf Club. Young Peoples' Coke Party.
		7:30	Dinner in the Dining Room.
9:45	**"What To Do About Consumerism"** Counselor Harold T. Halfpenny.	**Wed., July 22**	Third General Session, Convention Hall.
10:15	**"Call to Action,"** Public Affairs Chairman Nicholas A. Rossi	9:00 a.m.	**"Curbing Rising Costs."** F. Denby Allen, President, John B. Canepa Company.
10:45	**"Product Promotion"**—National Macaroni Institute report by Theodore R. Sills, Elinor Ehrman.	9:30	**"Considerations of the Fair Labor Standards Act,"** Frank B. Mercurio, Regional Director, Wage and Hour Div., U.S. Department of Labor.
11:15	**"Educating Consumers"** Glenna McGinnis, Food Editor, Woman's Day Magazine.	10:00	**"Traffic Matters"**—panel discussion, Martin E. Coughlin, Thos. J. Lipton; G. R. Heckman, Jr., Hershey Foods; Vincent F. LaRosa, V. LaRosa & Sons.
12:00	Adjournment.	10:45	**"How to Better Control Business Travel Expenses Through Standard Costing,"** Robert H. Kastengren, Executive V. P., Runzheime & Company, Inc.
12:30 p.m.	European Luncheon in the Dining Room.	11:30	**"Getting Things Done Through People,"** William A. Henry, V. P. Marketing, Skinner Macaroni Company.
2:00	Boat trip around Lake Placid, assemble at the dock.	12:00	Reports of Nominations, Audit, and Resolutions Committees. Adjournment.
4:30	National Macaroni Institute Committee Canadian macaroni manufacturers meet. Adirondack Room.	12:30 p.m.	Puerto Rican Luncheon, Dining Room.
6:30	Suppliers' Social at the Pool. Young Peoples' Coke Party.	2:00	Trip to Sterling-Alaska Fur Farm.
7:30	Italian Dinner Party, Dining Room. Dancing in Sunset Lounge.	5:30	Directors' Organizational Meeting.
Tues., July 21	Second General Session, Convention Hall	6:30	Suppliers' Social in the Sunset Lounge. Young Peoples' Coke Party.
9:00 a.m.	**"Improving Our Nutritional Image,"** Dr. D. Mark Hegsted, Department of Nutrition, School of Public Health, Harvard University.	7:30	Banquet in the Dining Room.
		Thurs., July 23	Board of Directors Meeting—Lake View Room.
9:45	**"Comments on Impending Legislation,"** H. H. Lampman, Durum Wheat Institute. J. J. Winston, Nat'l Macaroni Assn.		
10:15	**Durum Wheat Institute Report**		

Packaging Systems

From Arthur D. Little, Inc. — Industrial Bulletin.

THERE is a growing trend toward integrated packaging systems, with packaging machinery, materials, and design provided by a single company. Users of packaging are attracted by the single-source responsibility of the systems approach, which gives the integrated manufacturers an improved marketing position in a highly competitive field. The packaging industry is growing at a rate below that of the Gross National Product (5 percent, compared with 6 percent for the GNP), and individual firms compete strenuously to achieve performance beyond the industry's pattern. The systems approach is not creating any new markets, but it is enabling suppliers who use it to capture a larger share of the existing market.

Integrated Systems

For over 30 years, major suppliers of metal cans have supplied both machinery and materials to processors, and have been supplied advice to the canners about how to package their product, what cans to use, and what formulations to use. Integrated systems using cans, paperboard, and plastics were adopted about 15 years ago, when one manufacturer of cans and paperboard six-pack carriers engineered and developed the equipment for brewers and soft-drink canners to fill, close, and group their containers. Until recently, however, the number of firms that supplied packaging machinery and materials under one manufacturer's name was limited.

Between 1962 and 1968, several manufacturers developed machines for integrated packaging systems, but instead of manufacturing the materials as well, these engineering firms chose to license their package design to materials suppliers who in turn supplied the material for packaging on a royalty basis. Many machinery-and-materials systems were produced by licensing arrangements, joint ventures, or acquisition. Most recently, however, materials companies, particularly those in the plastics and paperboard industries, have undertaken the manufacture of packaging machinery under their own names.

Obsolescence

The major threat in the packaging industry is obsolescence, with one material constantly being substituted for another—plastic for glass bottles; plastic for paperboard tubs; composite and paperboard cans for metal ones. For example, plastic carriers now account for two-thirds of the six-pack beer packaging market, after having been introduced only six or seven years ago. One machinery firm is now doing research on its fourth generation of milk-packaging design in 15 years. This company, which manufactures the machinery and licenses the production of the packaging materials, has taken a greater share of the market with each improvement, and it now accounts for over 90 percent of the market for paperboard milk containers.

Costs Reduced

New packaging methods and machines can achieve high speeds, lower cost, and more convenient operations. In high-volume operations, mechanical and automatic packaging techniques can cut labor costs sharply.

Only within the last three to five years have integrated packaging systems become significant in the paper and paperboard industry. Now they are important in beer and beverage multipacks, paperboard milk cartons, a variety of snack food and frozen food packages, and folding cartons for such food products as gelatin, and non-food products such as detergents.

The use of packaging systems has grown fastest for primary and secondary containers, with shipping containers lagging behind; with growing use of corrugated and other paper wraparound containers, the gap is narrowing. Because corrugated wraparound packaging equipment is more complicated than that for knocked-down cases, it is necessary to use specialized machinery and a systems approach. For some high-volume products, the conventional corrugated shipping carton is being threatened by containment systems that involve plastic shrink-wrapping, or kraft paper bundling.

Systems For Plastics

Recently, plastics companies have also made efforts to find new markets for resins by promoting plastic packaging; the result has been considerable change and competition among plastic packages. The ease with which plastics can be fabricated, however, together with the relatively low cost of equipment and development, keeps the market to small producers, who put heavy pressure on prices and profits. In order to protect their markets, the large plastics packaging firms are becoming increasingly aware of the opportunities offered by an integrated system. The earliest production of plastic shrink film, widely used for wrapping frozen poultry and meat and for phonograph records, required a systems approach from its inception because of the difficulty in handling the film. Integrated plastics systems have been developed for in-plant thermoformed fill-and-seal cups and tubs for packaging jellies and other condiments, cream, frankfurters, and various products available in individual portions. A great deal of work has been expended on blow-molded plastic milk bottles, and there is a potential market for several billion units. Some plastic milk packages are now being produced in Europe, but there is relatively little commercial use of the system in this country at present. Nevertheless, it is expected that there will be a substantial increase in integrated plastic materials and machinery systems in the next five to ten years.

Researcher Retires

Dr. Nelson Allen, technical coordinator in the packaging systems and market development groups of the Du Pont Company's Film Department, is retiring after more than 37 years with the company. He had primary responsibility for much of the product and market development of such major Du Pont films as the first cellophane for meat packaging, "K" polymer-coated cellophane, polyethylene and "Mylar" polyester film. In 1965 he received the Professional Award of the Packaging Institute.

An energetic traveler, he hopes to combine this hobby with business through the International Executive Services Corps. The IESC coordinates the assignments of retired executives who donate their time and talent in working with companies in developing countries. He will also continue such duties as advising the United States Army's Laboratories on problems in military packaging.

The way to stay human is to keep learning.

Mechanical Packaging Service

By Evans Hiotakis, Director, Mechanical Packaging, Diamond National Corporation, at the NMMA Packaging Seminar, New York City

In today's packaging industry, your converter offers numerous services.

One of these services is the mechanical packaging department.

Scientific Approach

Analysis of packaging line operations has become a science. As we become more scientific in our approach to packaging problems, your converter has informed personnel to render assistance and advice in the automation of packaging lines.

These departments make available experienced and capable engineers who have a wide background in packaging and packaging equipment. It is their function to recommend packaging and packaging equipment for a sound and economic packaging program.

Basically, there are two ways to perform most packaging operations, by hand or machine.

One of the costliest methods known in accomplishing an operation is the hand method. If we were to depend on manual labor alone we would still be living in the past.

Another way to accomplish a given result is by machinery. Machinery has brought us to our high level of living. Machinery has given us better products at lower costs. Machinery has raised our income and standard of living. Machinery has given us more leisure, and yet hand operations are still performed on packaging lines; in opening, filling and sealing of packages.

Automation

Packaging line automation is one of the last frontiers for substantial savings in the overall manufacturing operation.

Packaging line automation calls for the substitution of hand operations by mechanical means, for packing a product into a package and represents an improvement over existing methods.

It may embody such factors as greater efficiency, higher speeds, fewer personnel, lower packaging costs and product savings.

Packaging line automation concerns itself with all phases pertaining to the completely packaged product as it emerges from the packaging line ready for shipment. Packaging line automation starts where product production ends and stops when the completely packaged product is ready to ship.

Remember that the price of the package is not the all-important factor.

The chief consideration is the total cost of the finished package.

Can it be reduced by substituting a machine operation for hand labor? Can a better machine than the one now in use reduce packaging costs?

Through suggestions, advice, recommendations on the part of these people, one or possibly all the advantages listed may result.

1. **Greater overall efficiency.** This means less spoilage, more continuous operation with less down time, quicker changeover time, a better fold or a better gluing operation.
2. **Higher Production.** Modern equipment has greater capacity. As firms grow, their production increases. Their production equipment must be in direct ratio to their peak requirements. Likewise, their packaging equipment must be geared to their production lines.
3. **Reduced Labor Cost.** As we mentioned before, hands are the most expensive means of accomplishing a given result. Labor involves not only direct wages but also extras like insurance, social security and unemployment insurance contributions, etc.
4. **Lower cost per finished package.** This results from a combination of greater efficiency, greater production and reduced personnel.

A redesign of the package may be the turning point on which savings can be effected by permitting greater mechanization.

Your converter offers leased equipment and also develops packaging equipment for certain operations. The gains of developmental experience in back of lease machines makes them most ideal for the functions they perform.

Consider the advantages of leased equipment:

1. To the user of packaging, leased equipment is an operating expense—not a capital investment which is taxable. Therefore his working capital is freed for growth.
2. To the user of packaging, lease equipment affords greater flexibility than outright purchase.
3. In every lease there is an opportunity to terminate after a short period of time, so that if the packaging concept changes, or new and better machines are available, the machine can be returned and another machine leased in its place. In the case of an outright purchase, the purchaser may be restricted to its use for the life of the equipment.
4. To the customer of packaging, leased equipment is a definite advantage because the manufacturer of packages accepts the overall responsibility for the machine and the package performance.
5. The package user is not placed in the position of being a referee between the package supplier and the machine supplier when the operation is down due to machine or package problem.

Several years ago, Diamond National was given the opportunity to survey the macaroni industry, and one of their developments is the Diamond High Flow System. (Editor's note: Then Mr. Hiotakis presented this program on film, taken at the Buitoni plant in South Hackensack, New Jersey.)

Dutch Recipe Books

Bureau Voorlichting Macaroni & Spaghetti of Zaandam, Netherlands has recently issued two handsome recipe booklets.

"Culinary Composites in Macaroni & Spaghetti" is a 36-page booklet profusely illustrated in color photographs. It offers such tempting suggestions as Macaroni in Melon, Macaroni in Madeira Sauce, Spaghetti with Chicken Legs and Olives, Macaroni in Champignon Sauce, Spaghetti Beef Stroganoff, Macaroni with Chicken Legs and Wine Sauce, Macaroni in Cabbage Leaves, Spaghetti with Beer Stew, Spaghetti Souffle, Curry Macaroni with Shishkabobs, Spaghetti with Lamb Ragu, Macaroni with Seafood and Citrus.

Macaroni mixed with a variety of vegetables, served with raisins and apples, combined with white grapes and tiny pearl onions, appear among the concoctions. Wine is used frequently as a cooking ingredient.

The second booklet is called "Sauzen-Scala" and illustrates some five sauces besides giving instructions for a basic sauce recipe. Variations include Rose Sauce, Provincial Sauce, Hongaarse Sauce (made with oranges, lemons, onions, garlic, milk and wine), Madeira Sauce, and Raisin Sauce.

Executive of the Bureau is Mr. F. Leutcher, whose address is Postbus 161, Zaandam, Netherlands.

Sage Saying

The man who stops advertising to save money is like the man who stops the clock to save time.

TRIANGLE MOVES WITH MACARONI

by William H. Zuse, Triangle Package Machinery Co.

Triangle is proud to have been associated with the Macaroni Industry practically since the founding of the Company. In recently going through some old advertising literature, it was interesting to note that as far back as the early 1930's Triangle was already extensively involved with your industry and its packaging requirements.

To a considerable degree, Triangle has grown up with this industry and we have shared its advancements as well as your sharing our developments. These developments have gone all the way from the old gross weigher up through a semi-automatic carton sealer, to the present day equipment as it is being offered to you.

Form, Fill, Seal

For instance, in the early 1960's we offered one of the first vertical form, fill, seal machines specifically designed for the packaging in films of your noodle products. These were basically, modifications of a standard vertical form, fill, seal machine specifically designed to accommodate this particular type of product. Almost at the same time, we also offered to your industry the newly designed Gaubert Spaghetti Wrapper for long cut goods.

Certainly, the 1960's have been well represented with new developments when some six years ago a complete and basic redesign of the form, fill, seal bag machine was undertaken. Since that time, more innovations have been made with the highly accurate Flexitron net weighing system.

These developments are all indicative of the forward looking attitude that Triangle has and its involvements with your industry. Each of the developments has had application for you . . . basic benefits in higher operating efficiencies, higher operating speeds and greater accuracies.

Minimum of Maintenance

Where have some of these developments led? Our basic interest has been in seeing you with the most maintenance free equipment possible. For instance, when we brought out the basic redesign on the bag machine considerable emphasis was placed on making this a machine which, when required, was easily maintained. We were pioneers in the use of solid state controls and over the years now that they have been in use, they have been constantly up-graded and redesigned for maximum efficiency.

Solid State Controls

Even in our future developments our basic thinking follows these trends. Solid state controls were a principal benefit in our new Flexitron net weighing system. Actually, without some of the industrial developments which have occurred, many of ours could not have been achieved. I am sure that the basic trend towards solid state electronics is well established and each of my colleagues will support the efforts in the use of these types of controls.

The future, of course, holds many other interesting developments. No company is stagnant and it must continuously move forward. It is unfortunate that we cannot make any particular announcements at this time, but we can assure you that of the several developments presently in progress within our Research Department, three of them will have definite and important places in your future packaging operations.

PROFITABLE PACKAGING

by Dave Strakalaitis, Hayssen Manufacturing Company
at the NMMA Packaging Seminar, New York City

It is getting more important to consider overall systems in a given plant in order to get a profitable, efficient operation. In considering an expansion or replacement, it is not enough just to buy a packaging machine, extruder, or packaging material and hope it works right. All parts of the system, before and after the new item, should be reviewed to determine the effect in light of the desired result.

The desired result is usually more production, lower costs, or the introduction of a new product.

New product introductions take on a variety of unique solutions, and the specific discussion of them is best left to another time.

Higher production is usually coupled with lower costs, and I would like to outline a checklist for your consideration, primarily in relation to packaging equipment.

Let's assume that you need more packaging equipment. What is a reasonable approach to the problem? It is not to first call a number of manufacturers and tell them what you need. The proper way is to do some thinking much prior to acting so that you again become familiar with your own plant and its problems. Walk through it like a child, with an open mind, asking questions and digesting the answers. Don't let pride (maybe you built the system) deter you from getting to basics. Consider other plants you have seen, go to trade shows, walk through supermarkets and in your mind lower or increase the quality of your product and evaluate the results.

Check List

Consider the production line:

1. Does it need a control system?
   a) Are the batches uniform—does density or temperature vary?
   b) Do I need better storage for my raw material with controlled humidity or temperatures? If I do this, will I need better controls?
2. Is there excess capacity on the "make" system. Can it be easily added?
3. Do I have enough steam pressure, electrical capacity, compressed air, etc.?
4. Can I convey rather than "tray" or "tote"?
5. Can I cut pieces shorter—longer—or prevent interlocking, bridging, or piggy backing?
6. Can I minimize change over by adding another line, working ahead, or dropping specialty items?

All these points have a direct effect on the packaging operation.

Tighter density and size control might allow a volumetric operation as compared to net weighing, which is usually slower and more expensive. Minimizing change over offers faster but usually less versatile, equipment possibilities.

(Continued on page 32)

Profitable Packaging—

(Continued from page 30)

Consider the packaging material:

1. Are there more machineable films available?
2. Do you need more or less protection —strength?
3. Would a more expensive film increase packaging efficiency?
4. Can a specific product identification be printed on the film by the packaging machine so less material inventory is required?

Consider the pack off system:

1. Would multiple, single purpose lines lend themselves better for cartons, packing, palletizing, etc.?
2. Can difficult products, odd shapes, or specialty store items be on their own line rather than hindering high volume production?
3. Can automatic baling or carton packing be utilized?

These are but a few of the things you should consider. Now let's think about the equipment itself.

Preliminary Specifications

Make a list of the considerations. These should not be slanted towards a specific manufacturer or method. Also bear in mind that these are **preliminary** specifications and that final specifications will still have to be written after discussion with a few of the packaging equipment suppliers. You just cannot keep up with all the things that are happening in this field as well as we can, so there may be things that you are not familiar with or aware of.

1. What are the speeds required—for each product and package size?
2. How many shifts per day can you operate? At this stage it is probably better to give your overall production requirements or output per day rather than containers per minute.
3. What tolerances or accuracies do you need for each product and package size?
4. What is the package size and weight? Can they be modified to fall within a specific machine range? What packaging materials will be used? State as completely as possible your present material in detail and have samples available in case you are asked.
5. Have figures available on the volume or density of each product, make notes as to any product peculiarities or if you want to maintain a "tight" fill or an unbroken length, for instance.
6. Be prepared to show your present system unless it has something secret about it or describe it as fully as possible. Are there any unique product handling systems that you have incorporated into your plant?
7. Are there any special mechanical or electrical specifications that you have and what utilities do you have available?
8. Is there anything peculiar about your packaging room, such as dust, ceiling height or area limitations such as columns or other existing equipment?

Contact Equipment Men

I believe you are now ready to call in some specific manufacturers to discuss your specifications. I am sure there will be many changes, usually money savers, that will be incorporated. The point is to call in a **few** machinery manufacturers, not many, since this can only lead to confusion.

You are now ready to write your final specifications based on your conversations. The decision is now up to you but there are still a few details left. After you receive some quotations, it is probably worthwhile to visit the manufacturer's plant. They are usually willing to show you their operations and it is an excellent chance to meet the personnel and to evaluate the company as a whole. You can also discuss in detail your quotation or specifications so that there is complete understanding between both parties. You can also discuss spare parts, installation, training, and specialty items.

Pouch Solves Problems

Packaging problems caused by highly aggressive seasonings, especially chicken fat, have been solved by Golden Grain Macaroni Company by adoption of a new pouch incorporating a heat seal coating of DuPont's "Surlyn" ionomer resin. Since the San Leandro, Calif., firm switched to the improved barrier construction, costs and returns from the field have been substantially reduced.

In marketing its popular Rice-a-Roni and Noodle-Roni products, Golden Grain had difficulty with the seasonings migrating to the pouch surface. In addition, inadequate heat seals were obtained with the former construction (from outside in) of 25-lb. transparent glassine/7 to 10 lbs. polyethylene/.00035 to .0005-inch foil/3 to 5 lbs. vinyl.

Surlyn Layer

After evaluating several constructions, Golden Grain achieved a superior package supplied by Crown Zellerbach Corporation consisting (from outside in) of 25-lb. glazed opaque sulfite/7 to 10 lbs. polyethylene/.00035-inch foil/7 to 8 lbs. "Surlyn" ionomer resin. According to Mr. Jack Ziegler of Golden Grain, "The new pouch with the layer of 'Surlyn' has reduced returns from the field by 75 to 80 per cent. In addition, we have experienced cost savings ranging from 3 to 5 per cent to 15 to 20 per cent."

Oil and grease resistance of "Surlyn" and its virtual freedom from pinholes nearly eliminated the migration problem experienced with the previous construction. Sustained adhesion of the ionomer coating to the foil also supports the superior barrier protection offered by the new package.

Heat Sealing Improved

Golden Grain also credits the heat sealing function of the ionomer layer with improving package durability and reliability. According to Mr. Ziegler, "'Surlyn' provides a superior heat seal compared to vinyl. It has also improved operator morale. They have more confidence in running the new package, because with 'Surlyn', they know they have a good seal. With vinyl, they could not always tell if they had a sufficient seal."

Crown Zellerbach extrusion laminates the new construction at its San Leandro, Calif., plant. Impressions are printed by flexography process with a lacquer overprint.

Grass Noodle Co. Consents

I. J. Grass Noodle Co. has consented in Federal Court to entry of a final judgment in a trademark infringement and unfair competition suit filed by Golden Grain Macaroni Co., San Leandro, Calif.

The judgment prohibits Grass from using marks in combination with a package design that imitates the one used by Golden Grain on its Rice-A-Roni package for a rice and vermicelli dinner.

The judgment, however, permits Grass to use certain package designs for its chicken- and beef-flavored Noodle and Rice Mix packages.

FOOD RETAILING IN THE 1970's

A forecast based on historic and current measurments and appraisals — and the forward planning and expectations of leaders in grocery manufacturing, distribution and retailing.

by Robert W. Mueller, Editor and Publisher of Progressive Grocer at the Convention of The Super Market Institute

THE predictions below will not be the crystal ball type so often portrayed by those peering into the next decade.

Because food retailing is so enormous, so complex, involves billions in investment and reflects the decisions of tens of thousands of executives it cannot change overnight. Yet—it is changing and will change in many ways in the next several years, according to the thinking of its leaders. We believe these forecasts, while not fantastic, are realistic.

Robert W. Mueller

Physical Aspects

For openers, let's consider the physical aspects of the super market already planned for 1975.

Architecturally, it will be simple, pleasing and more conservative than its predecessors. In most instances, its style will harmonize with the character of the community it serves. Multi-store retailers for the most part will have abandoned standardized styles.

Clean lines, attractive materials, modest yet pleasing colors will replace the garish, noisy image so often created by super markets of earlier years.

The most significant change, however, will be in the size of the super market itself. Virtually unchanged in ten years, the typical super market of today, with a total area of some 22,000 feet will grow to an impressive 31,000 feet, a gain of nearly 50 percent. This represents an abrupt change in retailer thinking.

It holds great significance for everyone in food distribution, for it affects management, finance, merchandise, services, consumers and employees.

Why this sudden change?

Reasons for Bigger Stores

The over-riding reason is the return to price competition. We are leaving, perhaps have already left the era of non-price competition dominated by trading stamps in favor of lowest possible prices. Since low price has again become the no. 1 draw and since efficiency and productivity increase with store size, retailers feel they must go to bigger stores to survive.

And retailers, more than ever before, are now highly new item conscious, believe more firmly in the philosophy of wide merchandise variety, and realize that much larger stores will be needed.

There will also be an important change in the use of this larger store area, and this is seen in the forecast that sales area which has remained at a constant 65 percent to 68 percent for about 15 years, will grow to nearly three-quarters of total store area. This means that although store area will increase by some 50 percent—selling area will increse 63 percent by 1975.

There will be several changes in space allocation, according to industry operators and planners.

Floor Space in 1975

Within the sales area, for example, only one department seems slated to decline in share of floor feet. The gradual decline in produce sales as a percent of total sales is expected to continue. In the non-sales area smaller shares of total space will be required for grocery storage due to greater precision in shelf allocation, more professional store ordering, enlightened concepts in full-case shelf stocking and more realistic case packs. The early, yet definite trends to central processing for meats and produce are expected to reduce space requirements for processing and packaging at store level.

The floor space thus freed will become available to frozen foods, grocery, general merchandise, and dairy products, all of which are slated for a larger share of total sales area, with frozen foods and general merchandise the biggest gainers. In the non-sales area there will be more provision for frozen foods back-up, for customer comfort and assistance in the form of rest rooms, lounges, and service centers, for better facilities for employees.

We shall also see a change from the historic 3.1 to 1 to a 3.6 to 1 parking to store ratio as the nation acquires more cars per family—and as super markets respond to the accelerating demand for more and more parking.

And to meet the consumer's insatiable demand for "new and better" merchandise the super market of tomorrow will offer 10,000 and perhaps even more items and still be unable to absorb fully the flood of merchandise offered by an increasingly new-item minded manufacturing industry.

The growth in number of items will be general, but frozen foods and general merchandise seem slated for greatest expansion.

These trends to more and bigger will inevitably be reflected in substantially higher costs.

Total Investment

Today's new super market, excluding inventory, represents an investment of approximately $800,000. But when we calculate inflation and increased store size the new super market of 1975 will surely cost well over $1,000,000, nearly double today's investment. With stakes of this magnitude, everything involved in the new store—merchandise, decor, personnel services, location—will have to be approached with greater knowledge and skill.

Yet, food merchants are highly optimistic about the performance of the dream store of 1975.

Sales are expected to approach the magic mark of $100,000 per week with space productivity rising to $3.75 per square foot.

Operators are also convinced that labor expense will continue to increase faster than labor productivity and anticipate an increase in store margin on sales and they believe, too, that through the addition of new items, new departments, tomorrow's super market will earn a slightly higher net in percentage and a substantially higher net in dollars.

A wide sampling of super market operators reveals that larger store size, wider marketing areas and more customers will not only make these services and departments economically feasible but will also provide added draw for the super-super market of 1975. Size of today's typical super market cannot accommodate all, or even most of these.

Frozen foods, for years the most promising of all departments, at last seem destined to fulfill their promise, for operators confidently predict a selection of 800 items contributing 8 percent of total store sales—nearly double the variety and sales at present.

In looking to the future, retailers also realize that a big increase in store size and merchandise presents new problems as well as new opportunities—and perhaps the greatest danger is monotony—created by seemingly endless rows and canyons of cans, bottles, tubes and boxes—all highly colorful and therefore highly similar and increasingly hard to differentiate.

Many Stores Within A Store

To add interest, to help customers find categories and items, the grocery departments will be reorganized into many sub-departments, with each a shop in itself.

A second enemy of the big super market is shopper loneliness— the feeling that nobody cares, that nobody is around to help, to answer questions, to offer suggestions in the de-humanized palace.

To correct this store planners foresee the creation of customer service centers offering many aids and facilities that customers want and appreciate, yet could not be provided in stores of smaller size and lower sales.

Another great improvement will be found in one of the most troublesome, most costly functions in super marketing—check cashing. This will be achieved through new systems of credit verification. The customer presents her credit card, its serial number is punched into the verifier which instantly flashes red, green or yellow. The new systems can be self-contained within the store—or connected to a central verifier.

The most controversial development of the future is the trend toward checkout automation.

The Automated Check-Out

There is good reason to believe that important strides toward greater accuracy and speed will be realized by 1975. Essentially, here are the functions of electronic systems. As each item passes under or over the scanner, its code number and price will be read. The code and price are instantly transmitted to the register or calculator. The register or calculator will prepare a tape indicating brand name or type of item and total amount.

Perhaps the greatest break-through will be "instant audits" by item, by store, which will become available to store management and also to central computers at warehouses. The potentials in this area are truly enormous, but they cannot be realized until the industry has installed a system of universal codes.

Other problems, or questions: costs, which may run as much as $10,000 per check-out per year; consumer attitude; the feminine fear of automation.

Non-Store Retailing

Another possibility for the future, this one truly revolutionary, is the concept of non-store retailing, a system that eliminates the retail store as we know it. Food leaders do not think this possible or feasible; customers resent it, and when you stop to think of this so-called new idea you find that it isn't new at all, but a modern version of the expensive system that dominated food retailing for many decades, from which food retailing departed and a system that in fact, made the super market possible in the first place. Some increase in credit is expected, however, but only in highest income areas.

If we can therefore assume that the retail store will not disappear let's get back to some of the internal improvements expected. With new concepts in refrigeration, there will be new dimensions in product presentation in perishables and especially in fresh meats. Area, zone, or cubic refrigeration will greatly expand the quantity and type of meat, facilitate more interesting groupings.

Strip lighting will be replaced by recessed and spot systems to lend change of pace and special emphasis to product, to provide new heat sources and reduce noise.

Perishable lines will tend to break into their components in dairy, frozen foods, baked goods and produce with benefits to consumer, retailer and manufacturer. Also in perishables we shall have come much closer to the ultimate goal of central meat cutting and packaging—already a fact of life in many parts of Europe. Retailers estimate that of all red meats delivered to the store, 14 percent will be in carcass, 34 percent primal, 29 percent sub-primal and 23 percent in retail cuts. Complete centralization is not expected by 1975.

Computers/1975

The most dramatic single factor in 1975 will be the change in the role of the computer from one of bookkeeper to that of merchandising aid and counselor. It will become a trusted and reliable friend—an invaluable aid in the most important of all decision areas—space allocation to departments, categories and items and professional store ordering--to increase sales and reduce stock-outs.

The computer will suggest, even demand more realistic concepts on case packs, for we can predict that even with larger stores, that 9 out of 10 items will sell at a rate of less than a case of 24's per week—that the overwhelming majority will sell in the 2 to 6 unit range.

The computer will enable each super market to adapt its products, brands, services to the needs and preference of the people who comprise its clientele. Virtually every operator says this will be absolutely essential by 1975.

It will anticipate changes in sales rates by item by season and holiday, the periods when sales gains can most easily be attained.

By constantly measuring sales and profit results of displays, coupons, features and advertising, it will forecast performance of upcoming activities in all promotion areas.

Because it can conduct sales and profit audits, the computer will lead to entirely new principles of retail pricing—today a sadly neglected part of the operations and thinking in food retailing.

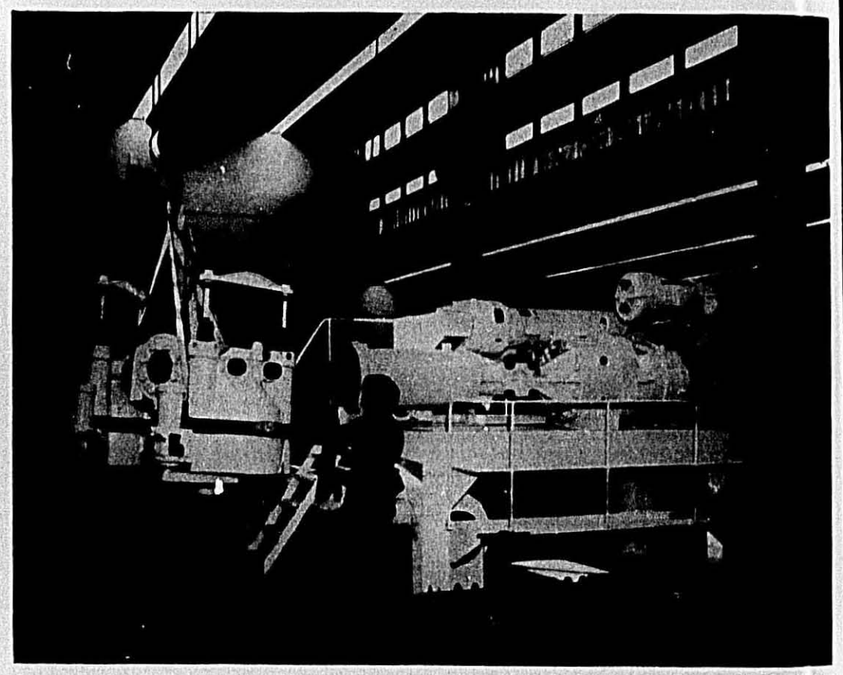
But, versatile as it will be—the computer cannot in itself create new ideas, it cannot plan and organize merchandising programs, it does not have the ability to forecast accurately the sales of new items, it never will have the facilities to inform, enthuse, and inspire and therefore—while the computer will bring entirely new knowledge to food retailing, it will still be up to people to get the job done.

Disturbing Trends

In spite of its very bright future the food industry is faced with certain disturbing trends. Food store sales are steadily declining as percents of GNP, disposable personal income, and total retail sales. It may not be possible to reverse these trends—but we must try. In addition to building splendid new stores, retailers, with manufacturers must apply again that magic ingredient —merchandising ingenuity—which we are now tending to lose due to our growing dependence on monetary allowances without ideas and programs.

A possible correction to the present trend toward merchandising bankruptcy may come in the form of displays pre-fabricated at manufacturer and

(Continued on page 38)



Final assembly of prototype of giant new 3,500-pound press in Buhler's Minneapolis plant.

Higher capacity . . .

Greater efficiency . . .

Better Sanitation . . .

Less Maintenance . . .

BUHLER®

More than 50 BUHLER engineers and macaroni specialists are engaged in a continuous research and development program to improve the performance of macaroni-manufacturing equipment.

Their effort is paying off for you, the macaroni producer.

BUHLER's researchers have developed new equipment with capacities up to 10,000 pounds per hour while constantly upgrading equipment of more standard sizes.

Here, for example, are just a few major BUHLER developments of the past few years:

- **New Single, Twin and Four-Screw Presses**
- **New Long Goods Spreader**
- **New Long Goods Cutter**
- **New Long Goods Driers with continuous drives and plastic side panels**
- **New Short Goods Driers with stronger product conveyors, design which keeps the product from the conveyor chain, plastic side panels.**

. . . and all these machines sturdier and more sanitary than ever.

This continuing development program is just one reason why BUHLER is supplying an ever-increasing share of the new macaroni equipment installed in the United States.

Another reason is BUHLER's guarantee that all equipment will meet specified production rates.

Another is the fast parts service from BUHLER's Minneapolis warehouse which contains North America's largest stock of spare parts for macaroni equipment.

But BUHLER engineers are never satisfied. Research is continuing. Other exciting new macaroni machines are now in the development or field testing stages.

Watch for them.

THE BUHLER CORPORATION
8925 Wayzata Blvd., Minneapolis, Minn. 55426

BUHLER BROTHERS (Canada) LTD.
Ontario, Canada

Food Retailing—

(Continued from page 35)

warehouse levels but which will require new equipment in materials handling at the store level.

Personnel/1975

As operators look to the future they anticipate that in terms of total employees, there will be more women, more part-timers, and that salary and wage expense will exceed 10 percent of sales. Operators also hope to achieve something that has long been discussed but seldom attained—offices and facilities that combine privacy, yet offer direct contact with store and warehouse and, equally important, stature and prestige appropriate to a manager who must and will be given far more authority and responsibility in a business doing from $4 to $6 million, offering a profit potential of $100,000, and who must control and correlate the activities of from 80 to 150 employees.

The industry foresees a continued shortage of qualified employees—yet there is a definite ray of hope in the growing number of persons studying distributive education in our high schools, community colleges and extension courses. Food retailers must find ways to relate themselves to these interested people if they are to be attracted to the food business.

That food leaders see "bigness" and "more" as the key words for the future —may very well open up new opportunities for those who think small.

Trading Areas

Today's super market draws the overwhelming share of its sales from a two-mile trading radius. The store of 1975 cannot live on a two-mile radius—must draw from an area about twice as large—and as a result retail vacuums will arise within these areas literally inviting convenience stores that will attract considerable volume from families who will not shop the increasingly inconvenient super market on many occasions and who will gladly pay a price premium for speed and convenience.

In only ten years, the convenience store has assumed significant proportions in numbers, sales and above all, in profitability. So far, the convenience store business has been developed primarily, not by established food retailers, but by outsiders from other business fields.

Present operators will continue their expansion, but new networks of convenience stores will be opened by chains, voluntaries and cooperatives and by 1975 these stores which will steadily grow larger in size and range of merchandise, are expected to reach these proportions.

In researching the full spectrum of food retailing in 1975, we came across one concept, already on the drawing boards, that we feel is not only exciting but also highly practical.

Super Market Design 1975

Its basic element is the super market itself—but attached to it are a convenience store open during super market hours but also earlier and later—and a quick service restaurant also offering take-out meals and foods.

Progressive Grocer editors have found this futuristic research fascinating, and stimulating—and we hope that you, too, may have felt some of the excitement and optimism generated by this very brief forecast.

Food Brokers Today and in the Future

Professor of Marketing,
by Dr. Daniel I. Padberg
Cornell University

Probably the most striking characteristic of food brokers is their ability to quickly adapt to new situations. Broker representation of food products today makes very different demands on the food broker firms than just a few years ago. Only by sensitive response to the changing food market and by constantly offering new initiatives has the broker function continued to increase in importance.

Market Responsiveness

Throughout my study of food brokers over the last two years I have tried to learn why food brokers have this characteristic of responsiveness. I conclude that their organization and structure gives the answer. Many larger firms have stabilizing features. The stores and brand names of other food firms attain a favored position with consumers. This acceptance builds momentum and tends to insulate the firm from the day-to-day changes in the food market. Since food brokers deal only with the pros, they have no momentum from consumer acceptance. Instead of focusing on brands or products they must be concerned with people and results. They work right in the market with no brand name, store or large asset structure to insulate them from market discipline. This situation breeds a high degree of market responsiveness.

What's to Come

changes can we anticipate? Several things merit consideration. I want to talk about just two: the automatic checkout in retailing, and new product introduction by manufacturers. One involves a response to a forthcoming change in the food market—the other offers the opportunity for a significant food broker initiative.

Automatic Checkout

How will the automatic checkout affect your operation? Perhaps we should first ask is it for real? Will it really happen? I have been one of the most skeptical on this subject. Computers are very expensive in relation to the volume running through a store. On the other hand, they are getting cheaper and more versatile. Several companies are convinced that they will be a major factor in food retailing in five years. So, what will this mean to food brokers. The process of ordering from the warehouse will be altered. Price marking may be increasingly done by the manufacturer—requiring more and different communications. How will new products be handled? Will retail work become more or less important?

New Product Introduction

What can be done about new product introduction? At present, new products are a must for virtually all manufacturers. Yet they are terribly difficult to introduce into the market. This situation becomes more acute as competitive forces require closer attention to the demographic character peculiar to each market. Broad-gauge promotion activities of the manufacturer may not be as effective as many smaller-scale efforts designed and coordinated by brokers. Can increasing broker initiative do a better job here?

Unfortunately, I don't have answers to these questions. Rather, I want to emphasize that the successful past as well as the successful future of food brokers rests on both responses to market changes and initiatives which can improve the overall performance of the food industry.

Computer Shopping

Computer shopping draws closer in San Diego. A concern called Telemart Enterprises plans to introduce a service this summer enabling housewives to call the company, give their grocery orders by code to a computer. The computer will process the orders, decide which delivery truck can get them to their destination fastest, and have them on their way in four hours.

INDEX TO ADVERTISERS

CLASSIFIED

ADVERTISING RATES

Want Ads ..... $1.00 per line
Minimum $3.00
Display Advertising ....Rates on Application

LARGEST SHARE HOLDER of a midwestern noodle and macaroni company is willing to sell his shares or discuss merger. Write Box 279, Macaroni Journal, Palatine, Ill. 60067.

WANTED—Subscribers, key people in your organization who must keep abreast of the times. $6 for twelve monthly issues.

Says Dennis the Menace

"Spaghetti is my favorite food! That's where all the ACTION is!"

Senator John Sparkman of Alabama (holding citation) receives an award for his outstanding service to the American Small Business Community on the 20th anniversary of the U.S. Senate Select Small Business Committee, of which Senator Sparkman is a member. The award was sponsored by the National Small Business Association, National Federation of Independent Business and the National Association of Small Business Investment Corporation. Making the presentation to Senator Sparkman (center) are (left to right) Richard H. Simpson, NSBA Treasurer; Carl A. Beck, NSBA Chairman of the Board; Rufus W. Gosnell, NSBA President and President of First State National Bank, Beech Island, S.C.; and Lloyd E. Skinner, President of Skinner Macaroni Co. Mr. Skinner is a former President and Chairman of the Board of the National Small Business Association.

Lloyd Skinner, Small Business Leader

Lloyd Skinner, president of Skinner Macaroni Company, Omaha, was re-elected to the Board of Trustees and Executive Committee of the National Small Business Association at its annual meeting in Washington.

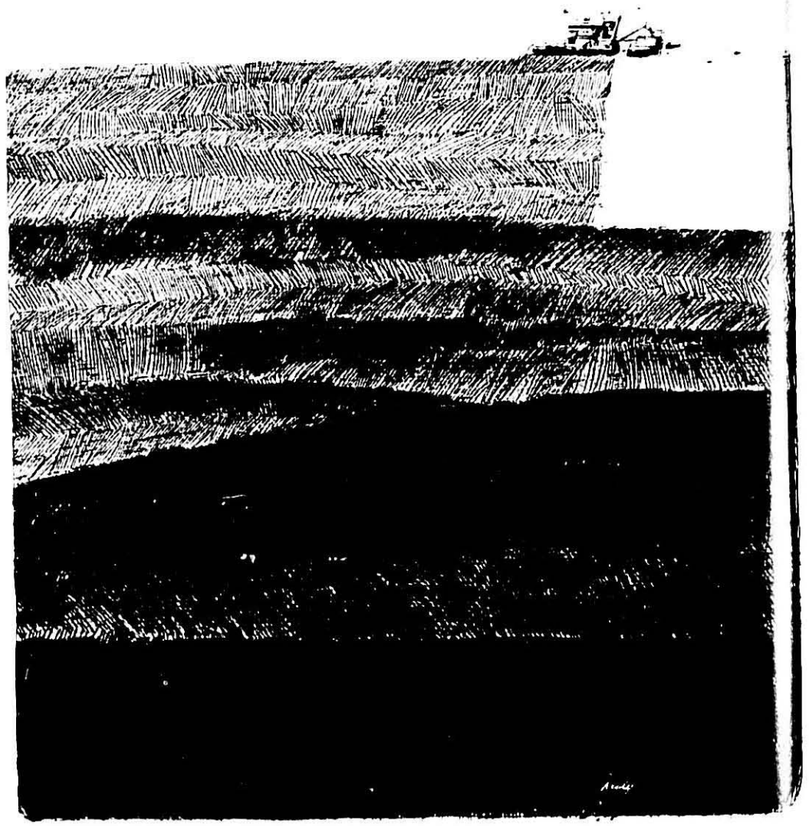
Mr. Skinner's firm is one of 35,000 NSB member companies in 500 fields of business covering manufacturing, wholesaling, retailing, service and professionals. The Washington-based non-profit organization represents the small business community in government relations. It promotes and encourages the small business sector of the economy, which comprises 97 percent of all U.S. companies.

Mr. Skinner ,a former president and board chairman of NSB, has been a member of its Board of Trustees continuously since 1950. He is a member of the executive committee of the National Marketing Committee, U.S. Department of Commerce; director and past president of the National Macaroni Manufacturers Association; a director of the Grocery Manufacturers Association, Mississippi Valley Association, Nebraska Clergy Economic Association, Omaha Chamber of Commerce, Crop Quality Control Council, and Midwest Employers Council, of which he was a founder.

Mr. Skinner is also currently president of Junior Achievement of Omaha; Catholic Co-Chairman of the National Conference of Christians and Jews; a trustee of the National Arthritis Foundation, the Mid-America Council, Boy Scouts of America, and the Nebraska Council on Economic Education. Other community organizations on whose governing or advisory boards he serves include the Douglas County Cancer Society, Omaha Salvation Army, Creighton Preparatory School, and Duchesne College.

Mr. Skinner has in the past been president of the Douglas County Campfire Girls, Nebraska Small Business Association, Omaha Civic Opera Society Board, Omaha Junior Chamber of Commerce, and is a past Commander of Omaha Post No. 1, American Legion. Other civic boards on which he has served include the United Community Service of Omaha (vice president), Omaha Youth Center, Catholic Interracial Council of Omaha, Omaha Safety Council, St. Catherine's Hospital, and Omaha Urban League. He has also been a member of the National Republican Finance Committee.

As a distinguished business and civic leader, Mr. Skinner has been the recipient of numerous honors including the Blessed Philippine Duchesne award; Omaha Music Service award; Outstanding Service award, Midwest Employers Council; Service Award of Merit, Omaha Urban League; Distinguished Service award, National Arthritis Foundation; Mercian Medal, College of St. Mary; Outstanding Small Businessman of 1969 (Central Region; National Council for Small Business Management Development; and Knight of St. Gregory. His biography appears in Who's Who in America.



im International Multifoods Durum Division