

**THE
MACARONI
JOURNAL**

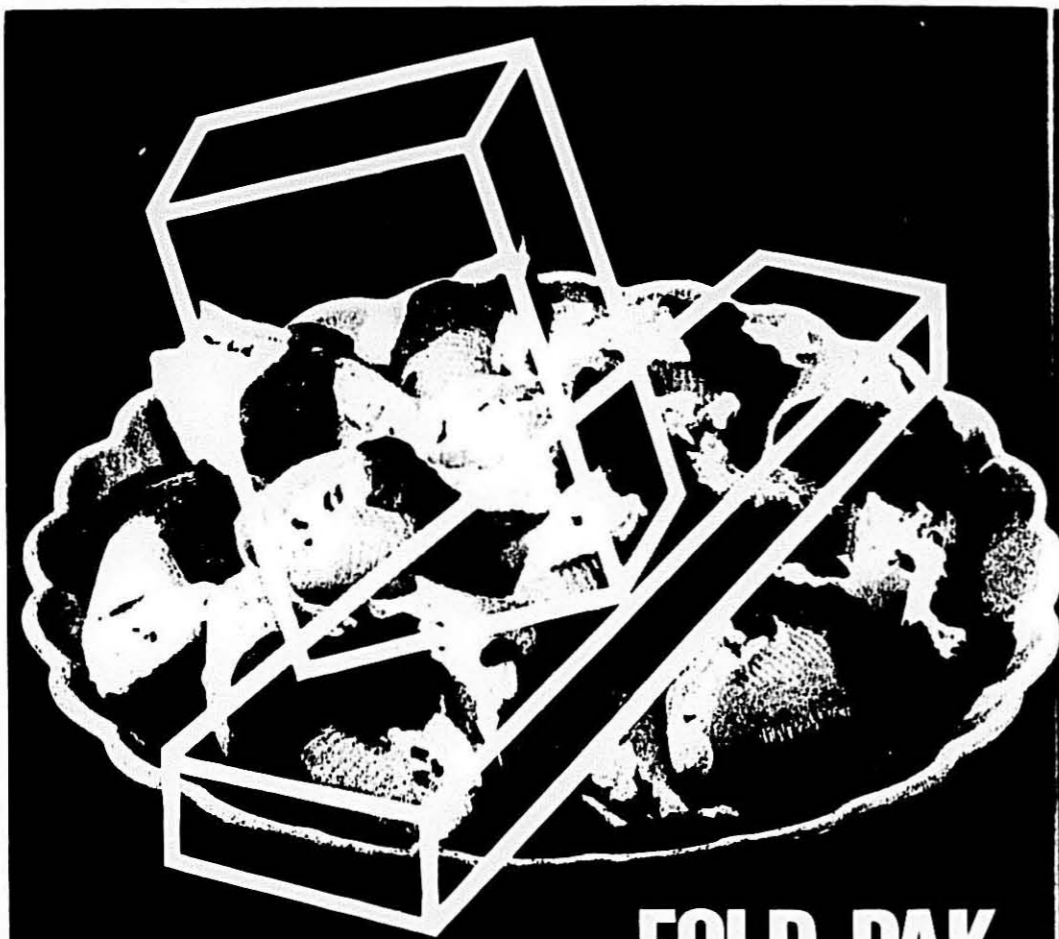
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Macaroni Journal

JUNE, 1978





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Corrugated Box Demand

The demand forecast for corrugated boxes in 1978 is holding close to the original 11% growth projection according to Merrill Lynch Economics.

Forecasts are updated annually for members of the Fibreboard Association based on a thorough analysis of economic indicators and end use markets.

In October 1977, Merrill Lynch projected a corrugated demand increase of 11% for 1978. November and December updates held to that number. The latest revision is slightly lower at 10%. Total shipments are now expected to reach 2,490 billion square feet, a new record for the industry.

Quarterly projections for box shipments now indicate respective gains of 5%, 11%, 11% and 10% according to the forecasters.

On a regional basis they project increases of Area 1 — Northeast — 26%; Area 2 — Southeast — 12%; Area 3 — East Central — 10%; Area 4 — North Central — 10%; Area 5 — South Central — 6.2% and Area 6 — West — 6.0%. The smallest increase

in the East Central Area would be due to the auto industry slowdown as well as slackened output of appliances.

Successful Seminars

The plants at which the Operation 2 Seminars were held this year were well-attended. They provided a new way to demonstrate energy audits and sanitation controls.

There are other advantages to a small operation. The more they like, the more they change quickly. They seem to have a strong, steady company loyalty.

We were particularly blessed this year to have three especially gracious and hospitable hosts. Their ideas, suggestions and hospitality, but preparation of lunch at the plant and the hospitality that ensued were beyond the call of duty and the groups were most appreciative.

We took pictures at both Seminars but they are lost somewhere in the great United States mail service. We are hopeful they turn up so we can publish them next month.

Plant Operations Seminars

In Seattle

Some 50 macaroni manufacturers and suppliers met in Seattle the first week in April for a Plant Operations Seminar. A reception and dinner party was held at the Red Lion Inn at Sea-Tac, and the group was bussed the following morning to the Major Italian Foods plant in Kent. Here the Merlino family—Ernest, Sr., Chairman; Ernest, Jr., President, and their fine organization headed by Bob Sanborn and Jennifer McBane in quality control and Andy Gildore, plant manager, had things in tip-top shape and were justly proud of their efficient operation.

Quality Assurance Program

Before touring the plant Bob Sanborn outlined their quality assurance and sanitation programs. Air quality and water supply are checked along with raw materials for compliance with specifications and product going through the production procedure. Final product evaluation is made by quality control analyst Jennifer McBane.

Records are kept on a batch production system with a lot number assigned for each week's operations. There is a formal system of analysis, storage, and release for production of raw material. Production procedures and specifications make for a consistent product. Microbiological studies are made to ascertain quality of sanitation.

Weekly cleaning procedures are outlined in the pages following.

James J. Winston, director of research for NMMA highlighted points of good manufacturing practices and cautioned plant operators not to accept a product that had evidence of infestation. He commented on the problem of mold created by condensation in winter months and again urged plant personnel to be sure equipment was clean and sanitized on a regular basis and that material coming from suppliers be handled in a similar manner.

Comments on Net Weight

After the plant tour a wine-tasting session preceded luncheon with Washington State wine from St. Michelle. The tasty brioles and la-

sagna were prepared by the Major Italian Foods staff. After the luncheon John H. Lewis, chief of the weights and measures division of the State of Washington, stated that net weights are required under law and that any statement on the package must be full measure for consumer acceptance. He said that Handbook 67 is in the formation stage and may be modified from its present recommendations. Commenting on the net weight case of Rath Bacon and General Mills and Seaboard Allied Milling that went to the Supreme Court, Mr. Lewis is in sympathy with the state positions that hygroscopic gains and losses be disregarded and that if the manufacturer has to overweigh to assure the consumer is getting and stated quantity on the package at point of purchase, it is his loss.

Mr. Lewis said that while variation in good manufacturing practices are permitted, 40 percent of the man hours in Washington are spent in checking merchandise at the retail level, and an average lot basis must meet the net weight requirement. He observed that the average consumer was resisting change to metric, although the use is increasing.

Boeing 747's

In the afternoon the group took a scenic bus ride through Seattle up to Everett to see Boeing 747 airplanes being assembled under the largest industrial plant in the world. It was impressive.

In Millersburg

A week later some 60 delegates attended the second Plant Operations Seminar and were impressed with the straight line efficiency of the Inn Maid Noodle operation in Millersburg, Ohio. Prior to the plant tour Charles Hoskins of the Hoskins Company, Allen Katske of Microdry Corporation, and David Hanssen of RubbAir Door Corporation commented on energy conservation.

John Amato of Clermont Food Machinery Company, Ignatius De Francis of Demaco, and Delano Vecchia of Wright Packaging Machinery Company were on hand to explain operations of their equipment. Leonard Ballas of Ballas Egg Prod-

ucts, an Inn Maid Supplier, was on hand to comment on egg handling.

Tour Amish Country

Paul Reining and his staff did an outstanding job of organizing the tour, providing hospitality, and arranging interesting side trips into Amish country where energy conservation has been a way of life for 100 years. Many Amish homes have no electrical power, television, or telephone, but they maintain excellent craftsmanship and pride in workmanship in woodworking, harness making, buggy manufacture, and cheese processing. Teams of horses were in the fields for spring plowing. The Amish work hard, and they eat well.

At Der Dutchman for dinner Paul and Lee Reining were presented a plaque for their hospitality and Homer Arnold and Ted Zuecher thanked for their organization of the plant tours.

Weekly Cleaning Procedures At Major Italian Foods

by Bob Sanborn, Quality Control

Purpose: To outline cleaning procedures in specified areas.

Scope: To remove accumulations of dust, flour, product, oil, grease, mold, slime, etc. from all points, places, etc. which are generally inaccessible during manufacturing and disinfect product contact and manufacturing areas.

General Instructions: All personnel must be alerted to hazards of dust and mold accumulations associated with the industry, I.E., insect infestation and microbial growth. The disinfectant used in cleaning (FYTE 13), diluted to a 2% aqueous solution. To make the proper dilution, add approximately 9 quarts to the blue barrel labeled 'disinfectant', then fill barrel with water slowly. For cleaning use, add one part disinfectant (barrel) and one part hot water.

Areas and Instructions:

1. Overhead and walls—Manufacturing, Packaging, Warehouse
 - a) With air, blow out/off all fans, scrap blowers, pipes, supports, beams, etc. (all ceiling and wall protrusions).

- i) With air and/or broom, remove dust accumulation from walls.
2. Roofs, Short and Long Lines
 - a) With air remove dust from pipes, fans, rising belts, supports, etc. (do not use air as a broom).
 - b) Vacuum accumulation from between roof top belts, inside disassembled product entrances, electrical boxes, bucket catch, etc.
 - c) Remove accumulation from within chain and gear guards.
 - d) Sweep.
 - e) Disinfect disassembled product entrances, reassemble.
 - f) Mop floors, walkways and ladders with disinfectant.
3. Dryers—Short Line
 - a) Remove stainless steel panels, disinfect.
 - b) With air, blow dust and product accumulation from behind pipes, between screens.
 - c) Wipe up static dust from stainless steel, use disinfectant.
 - d) To remove stains, scour with chlorine cleanser, rinse then disinfect.
 - e) Scrape and/or scour and sweep walls, ceiling, fans, vents, floors, doors. Disinfect the same.
 - f) Vacuum product accumulation from within screens (unzip at ends).
 - g) Heat treat.
4. Long Line—Pre Dry, Transfer Section, and Final Dry
 - a) Remove bulk of product accumulation from floors.
 - b) With air, blow dust and product accumulation from stick guides, heaters, behind pipes, gears and chains.
 - c) Scrape and/or scour and sweep: walls, ceiling, fans, floors, doors, disinfect. To remove stains, scour with chlorine cleaner, rinse, then disinfect.
 - d) Heat treat.
5. Accumulator
 - a) Remove bulk of product accumulation from floors.
 - b) With air, blow dust and product accumulation from stick guides, chains, gears and cutter vacuum motor and gear boxes.
6. Flour Room
 - a) With air dust all overhead fans, pipes, control boxes and equipment. Wipe remaining static dust.
 - b) Open lower sifter hatch, empty and vacuum.
 - c) Vacuum flour dump.
 - d) Open regrinder, clean magnet and vacuum inside.
 - e) Sweep.
 - f) Wet spray—corners, cracks, contacts.
7. Die Room Mixer and Press Parts Will Be Removed from Press by Authorized Persons Only.

Scope: Remove Dough and Dust from Press Parts and Equipment and Disinfect. General Die Room Clean-Up.

 - a) In die sink, wash pressure plates, filters, tubes, screens, etc. Add two cups disinfectant to the wash water. Place on a clean cart or table to dry.
 - b) Dies will be washed in the die washer. Add two cups disinfectant to the wash water (about 3 hours).
 - c) All white and clear collection buckets disinfected.
 - d) Black mats rinsed.
 - e) All packaging tables disinfected. Dust legs, turn wet (cleaned) collection buckets upside-down on packaging tables to dry.
 - f) All parts tables in dye room clean and organized.
 - g) Sinks, diewasher, control box, towel box clean.
 - h) Walls and floor hosed down with hot water and free from all dough—litter.
 - i) Hose to equipment rack.
 - j) Equipment rack and closet neat and clean. Cleaning utensils must be clean before storing (buckets, sponges, rags, scrapers, brooms, etc.).
8. Boiler Room
 - a) With air, blow down all dust accumulation on equipment, overheads and walls.
 - b) Sweep.
 - c) Scrape and sweep floors.
 - d) Disinfect south wall and doors, other walls and ceiling when indicated. Mop floor with disinfectant.
 - e) Degrease cutter area.
 - f) Mop floor (disinfectant).
9. Wet spray contacts, corners—cracks.
- d) Dust door.
9. Maintenance Shop
 - a) Sweep.
10. Mixers and Press Areas
 - a) Remove flour bags, and scrap blower bag with air. Remove dust, check bags for wear, secure replacement if hole or ear present. Replace.
 - b) Sanitize egg holding tanks.
 - c) Blow dust from all overhead areas (supports, pipes, beams, etc.).
 - d) Scrape all accumulation from within mixer. Vacuum. Disinfect, apply light coat of mineral oil.
 - e) Remove static dust on rails, supports, pipes, beams, etc.
 - f) Disinfect hand rail, mop platform and stairs with disinfectant.
 - g) Degrease motor areas.
 - h) Scrape dough accumulation from within die slots (cutter), disinfect.
 - i) Blow and vacuum dust accumulation from within motor gear boxes. Wipe up any oil spills.
 - j) Blow and wipe dust and grease accumulation from cutter area (pipes, supports, stick guides, etc.).
 - k) Disinfect product contact areas: belt, blades, guides, etc. Clean sticks—use disinfectant.
 - Short Press—Shaker:
 - m) Scrape dough accumulation from within dome, disinfect.
 - n) Blow and wipe dust and grease accumulation from dome area.
 - o) Remove the two side and one top panel from shaker. Blow and vacuum accumulation outside and within.
 - p) Disinfect in and outside.
 - q) Replace panels.
11. Storevayor
 - a) Blow out accumulation from within belts.
 - b) Dust beams and supports and shakers.
 - c) Sweep belt.
 - d) Mop belt with disinfectant. Start at south end with belt in motion. Disinfect shakers.
 - e) Scour rollers.
 - f) Disinfect buckets, dust conveying supports.

12. Bins

- a) With air blow off walkway, beams, supports, belts, pipes, hoses, ladder, buckets, chute.
- b) Disinfect buckets (3 sets).
- c) Remove dust and product from chute drop and packaging area.

13. Packaging

Scope:

- a) Clean all accumulation from under/on flats and tables, conveyors and packaging machines.
- b) Remove dust accumulation.
- c) Organize boxes and product in correct holding areas.

Spaghetti Conveying and Packaging, and Regrind

- a) Remove dust and product and grease accumulation from conveyors, chimneys and packaging machines.
- b) Stack regrind.
- c) Return sticks to press.
- d) Organize area.
- e) Blow under accumulator, toward west wall.

Short Cut Packaging and Product Storage

- a) Clear modulating system lines.
- b) With air and vacuum remove accumulations from pipes, supports, beams, and packaging machines.
- c) Remove grease accumulation from machinery.
- d) Remove glue spillage from cheese packaging area.
- e) Move flats to proper storage area. Organize product storage.
- f) Dust and organize parts table for pack machinery.
- g) Sweep section.

Bulk Packaging, Printing and Box Storage

- a) Dust and sweep printing area.
- b) Recover and replace fallen boxes behind box storage racks.
- c) Blow accumulation under rack toward north wall and sweep.
- d) Organize box storage.
- e) Pull out boxes and tables from bulk pack.
- f) Clean shelves, tables, scales, and miscellaneous in storage under tables.
- g) Sweep section.
- h) Mop printing area.

14. Miscellaneous Cleaning Maintenance Outside of Dryers

- a) Disinfect walls.
 - b) Dust control boxes, panels and all protrusions, and moldings.
- ### Floors
- a) All accumulation under dryers (blown west).
 - b) Accumulation behind long line swept.
 - c) All floor areas in manufacturing swept.

Wet Spraying and Fogging

- a) All contacts, corners and cracks and crevices on floor, walls, ceiling and dryer roofs wet sprayed.
- b) Fogging will be done by two persons when all other cleanup is finished and personnel have left the building.

15. Grounds

Scope: Free of Litter, Odor and Pest Harborage and Attractants

- a) Tanks: dust and sweep inside of tank area, then hose with hot water and wet spray.
- b) Flour unloading area: with hot water hose down tank and rail-car areas. Wet spray.
- c) Litter cleanup.
- d) Dumpster area: sweep. Hot water/disinfectant wash.

Bacteria Count

The influence of the bacteria count of pasta products during the drying process is discussed by Joe Manser in the Buhler-Miag publication Diagram 64.

Mr. Manser says the most important points to achieve a most bacteria-free pasta product besides the influence during the drying state are as follows:

- Sanitation of each plant
- Check of all received and used raw materials, such as semolina, water and especially egg products.
- Temperatures and cleaning cycle of the egg preparation.
- Personal hygiene of employees, supported by appropriate plant provisions.
- Cleaning and disinfecting of equipment.
- Heat up of dryers after cleaning and sticks before spreading to approximately 85° C.
- Filtration of fresh air for dryers.
- Systematic testing of products and check for bacteria-count.

The drying process receives the added significant function of elimin-

ating the increase of bacteria during the drying stage. It also acts as a safety valve to destroy the bacteria which, in spite of all precautions, were received in other steps of the process.

Mr. Manser goes on to discuss the testing they did describing the sampling techniques and charting the results.

Conclusions

This highly technical article is required reading and comes to these important conclusions:

- Drying temperatures above 50°C generally prevent the growth of bacteria.

- Their tests with Staphylococcus type 110 and 125 as well as E-Coli (instead of the dangerous Salmonella) showed that drying temperatures of 60°C are sufficient for the elimination of these types of bacteria. At this temperature the total plate-count is also well under control. This temperature, however, shall be applied during 2 hours and if possible at the beginning of the drying process.

- The actual or effective temperature of the bacteria (wet bulb temperature) can be established, based on the drying diagram.

- The temperature in the extruder shall not be elevated to kill bacteria. At all times, the "cold extrusion" (43 to 47°C) should be the goal.

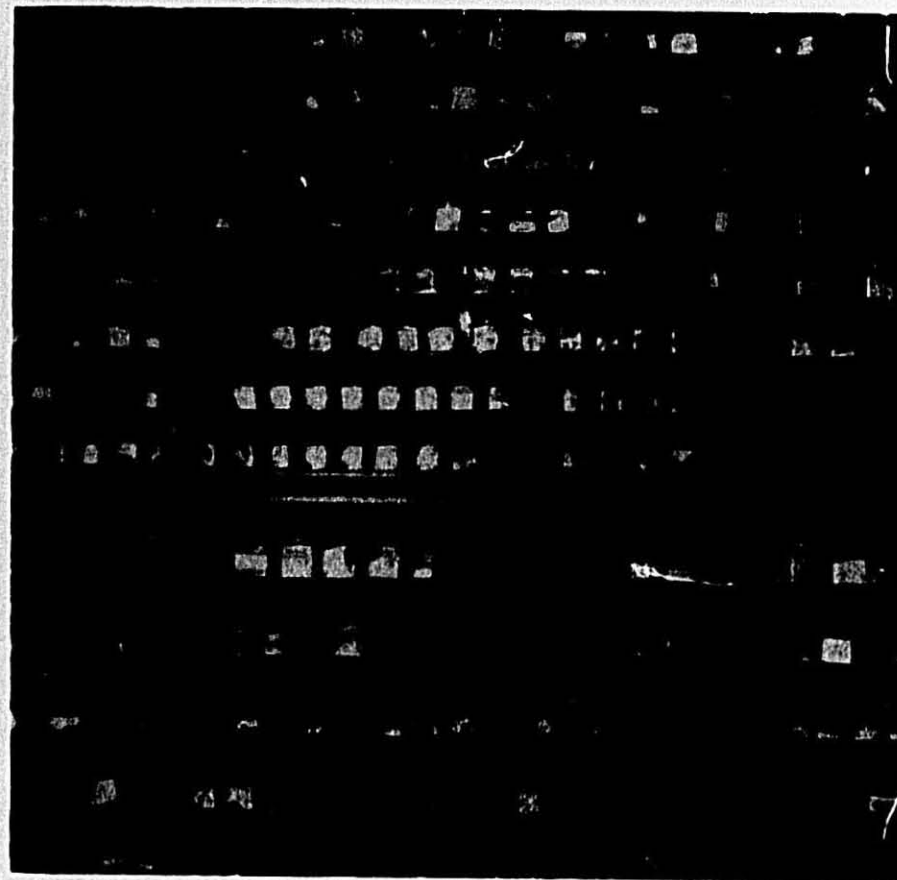
- To further increase the cooking quality of pasta products, the drying temperature should be increased to above 60°C. In this case we talk of "high temperature" drying.

- A change in color (orange coloration) can be established starting with drying temperatures of 80°C.

Reprints of the item are available by writing Buhler-Miag, Inc., P.O. Box 9497, Minneapolis, Minn. 55440.

Want to Bet?

The Government Printing Office is taking a small step that may ease the paperwork (and reading) burden of U.S. businessmen. It plans to charge federal agencies \$285 per page of regulations published in the Federal Register and \$50 a page for material in the Code of Federal Regulations. Time will tell but perhaps the cost may discourage some regulatory writers.



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COMMENTS ON ENERGY

by Charles M. Hoskins, Hoskins Company
at the Plant Operations Seminars

Energy will become scarcer and more expensive. This will have a substantial effect on macaroni manufacturing technology. Flagrant waste of energy is uneconomical, immoral, will soon become illegal and later will become impossible.

I have gathered together some ideas and data which may aid you to save energy and to reduce the cost of the energy which you use.

The first step is to reduce all different kinds of energy to the same basis and this is usually the British Thermal Unit or Btu which is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit.

In the April 10, 1978 *Business Week* there was an energy roundup which discussed Btu accounting in which the amount of energy used for every process and product was used in the same way as dollars are used in traditional cost accounting. This can be used for the energy actually brought into an individual factory or it can be used to assess the Btu content of such things as cartons, polyethylene bags and durum semolina. Seidman & Seidman of Grand Rapids, Michigan has developed this system.

The costs from various parts of the country for 1,000,000 Btu obtained from electricity, oil, gas and coal are shown in Table No. 1.

Efficiency Varies

The efficiency of the use of energy varies considerably from case to case. The energy audit of your factory should yield actual figures for your own case. Here are a few general figures which might be used as a guide:

A house heated by gas from Transcontinental pipeline. 100% gas leaves the pipeline, 5% distribution losses, 24% heat up the chimney. Net usage is 71% of the original heat. Heat pump operated by electricity from Central Electric Power Plant. Btu in fuel brought into power plant equals 100%. 70% goes out in waste heat at the power plant. 3% transmission losses. 27% electric power arrives at house. 44% heat is pumped in from outside air by the heat pump. Total efficiency 71%.



Charles M. Hoskins

Resistance heater supplied from Central Electric Power Plant. Loss in waste heat 70%. Transmission loss 3%. Useful heat delivered to house 27%.

Bibliography:

McGraw-Hill has put out an Encyclopedia of Energy which has an

enormous amount of information about the theory and practice of energy use. It covers in some degree almost everything that you would want to know about energy from the location of the principal coal fields of the world to the possible flow of energy through the United States economy in the 1990's. It even explains the second law of thermodynamics and how a laser operated hydrogen fusion nuclear reactor works.

The bible of the heating, ventilation and refrigeration industry consists of four books put out by the American Society of Heating, Refrigerating, and Air Conditioning Engineers. One of these books is published each year as part of the subscription to the *Ashrae Journal*. Each year the handbook covers one of the four subjects which are fundamentals, applications, systems and equipment. These books are very thorough and cover both practice and theory in great depth.

(Continued on page 10)

TABLE I
HOW ENERGY COSTS VARY
Dollars Per Million BTU's, Deliver at Site

	Atlanta	Boston	Chicago	Los Angeles	Portland (Ore.)
Electricity	\$8.20	\$11.90	\$9.10	\$8.70	\$5.00
Oil	2.01	2.25	2.22	1.86	1.86
Gas	1.53	2.36	1.75	1.65	1.65
Coal	1.11	1.33	1.00	0.71	0.71

Data: Seidman & Seidman

Electricity in Chicago is 9.1 times as expensive a source of energy as coal, and coal in Chicago is 48% more expensive than in Los Angeles.

TABLE II
BTU EQUIVALENT OF ENERGY IN VARIOUS FORMS

Type of Energy	Btu Equivalent
1 horsepower	2,546 Btu/hr
1 boiler horsepower	33,472 Btu/hr
1 kilowatt hour	3,415 Btu
Latent heat of evaporation of 1 pound of water at 212°F	970 Btu
1 ton of refrigeration	12,000 Btu
1 therm	100,000 Btu

Leaving out inefficiencies and losses shifts for 250 days is shown in Table III.

TABLE III
ENERGY COST OF RUNNING EQUIPMENT FOR 6,000 HOURS*

1 horsepower motor	\$ 139.00
100,000 Btu/hr. heat put into the boiler:	
Electric	\$ 5,460.00
Oil	1,332.00
Gas	1,050.00
Coal	600.00
A typical 1,000 lb. per hr. production line from press through dryers	
30 horsepower	\$ 6,950.00
3.14 therms	4,182.00
Total	\$11,132.00

* Based on Chicago prices.

The METAMORPHOSIS*

In the old days, the first generation Italo-Americans arrived here and many of them chose the production of Pasta for their livelihood. Though the business was laborious, the procedures were simple—select the best semolina for their basic ingredient—turn out the best looking and tasting product possible, and sell it to as many markets as would place the items on display.

In the course of time, complexities arose. The retail outlets became a jungle of products. Each one created to shout—buy me! Then the macaroni manufacturer became immersed in selling related items—and now completely prepared pasta products are in vogue.

However, a metamorphosis appears on the horizon: Fully appreciating the profit possibilities of the macaroni industry (which has only scratched the surface in America as compared to other countries) the giants of industry here are buying plants; and foreign money from several sources have sent professional buyers to secure the best possible purchases . . . it's happening all around you NOW!

Now! at the height of your business efforts, you must either fight 'em—or, join 'em.

We believe that just about everyone in the Macaroni Industry knows the reputation of Rossotti, which we have achieved over years. Some of those still in the Industry will remember my father and my brother. Therefore, our promise of complete confidence in any situations is a pledge. Regardless of the direction you choose for your business, I believe we can be helpful. All inquiries, of course, will be held in the strictest of confidence. We would be happy to discuss such situations with you.

* METAMORPHOSIS—transform; change of form structure or substance.—Webster.

Charles C. Rossotti, President George Leroy, Marketing Director Jack E. Rossotti, Vice President

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Comments on Energy

(Continued from page 8)

The theory of drying is covered in any standard chemical engineering text on unit operations. One such text which had a second printing in 1962 is *Principles of Unit Operations* by Foust, Wenzel, Clump, Maus and Andersen published by John Wiley and Sons, Inc. Contrary to popular opinion the basic principles of drying change very little from year to year since they are based on the laws of physics. For example, the heat pump was invented by Sidi Carnot in 1830, 54 years after the Declaration of Independence.

Suggestions on How to Save Energy

1. Run your production line at top capacity to get the maximum volume per Btu. For the case shown in Table III the electric cost per lb running at 1,000 lb per hour would be .115¢. If the same line were operating at 800 lb per hour, the cost would be .144¢ which is 25% more electric cost per lb. In general the usage of heat is closely related to the number of lb produced so there would not be a great difference in heat cost per lb at different production rates.

2. Exhaust directly from the dryer to the outside of the building and from the hottest most humid part of the dryer. Also, at least in the winter-time, operate the dryers at higher temperatures. Whatever air is exhausted from the factory must be brought into the factory and heated from the outside temperature up to the exhaust temperature. At very high humidities and high temperatures the exhaust air carries very large amounts of water. If the air from the dryer is exhausted into the building, then the amount of air exhausted from the building will be large because the moisture content of exhaust air is very low. I have calculated the total heat usage of a 1,000 lb per hour dryer under 4 assumptions—all for 40°F outside air.

Evaporate moisture	= 276,000
Heat intake air 40° to 120°F	89,000
	365,000
Less 20 hp x 2546	50,900
	314,100 Btu/hr

Evap H ₂ O	276,000
Heat intake air	242,201
	518,201
Less 20 hp.	50,900
	467,301 Btu/hr

Case III: 100 lb. Steam/hr. Added by a Steam Humidifier
440,700 Btu/hr

Case IV: Operate at 140°F with Direct Exhaust
293,000 Btu/hr

The base line for efficiency of a dryer should be the amount of heat required to provide the latent heat of evaporation of the moisture removed from the macaroni. This is approximately 1,000 Btu per pound evaporated or a little more because the latent heat of evaporation is greater at lower temperatures than it is at 212°F. The total amount of energy put into the circulating fans in the dryers is turned into heat either by heating up the circulation in the motor or by causing friction in the circulating air which eventually ends up as heat. Therefore this energy is not lost. This is reflected in the calculations.

3. Check the boiler exhaust gases for poor combustion. There are instruments for continually monitoring the amount of oxygen in the flue gases and information can also be obtained from spot checks on carbon dioxide, carbon monoxide, sulfur dioxide, oxygen and nitrogen. Also the temperature and the amount of water vapor in the exhaust gases should be measured. The reason for doing this is to determine the efficiency of combustion and to set it at the optimum point.

4. Recover heat from the boiler smokestack and use for space heating or other use in the factory. In old boilers this might yield a fair amount of useful heat. It could be used for operation absorptive air conditioning units.

5. The biggest possibility of heat saving in a macaroni plant is to recover the sensible and latent heat of the exhaust gases. There are low temperature difference heat exchangers which might be used for this purpose. The principal problem is that the exhaust gases carry flour dust which would deposit on the heat exchange medium and could result in growth of mold, plugging up of the

air passages, etc. Q-Dot makes a finned tube double heat exchanger. The heat exchanger is slanted slightly from the horizontal and the hot exhaust air heats up one end of the closed tubes to evaporate a liquid which then goes into the cold side of the heat exchanger where it condenses and runs back by gravity to the hot end.

There is also a type of energy recovery wheel which has a heat exchange medium made of corrugated metal. This wheel revolves in and out of the hot and cold air circulation. It has the disadvantage that the medium comes into contact with both the dirty exhaust air and the clean intake air.

A third type of heat exchanger has flow of the two gases on opposite sides of multiple metal sheets.

I think it is worthwhile to investigate these heat exchangers, but the problems of sanitation, condensation on the heat exchanger surface, and freezing of water on the heat exchanger must be faced and solved.

6. Drying of macaroni is an ideal subject for the use of solar energy because the total consumption of energy is steady day and night and a solar energy system could be installed in which every Btu absorbed by the system could be used to produce heat for the dryer. A system to produce one million Btu per hour 24 hours per day would cost between \$500,000 and \$1,000,000. The government has purposely been putting in large systems with the hope of getting the volume of solar panel production up to the point where mass production can bring down the costs. This source of heat is worth looking into now and may become necessary and economical sooner than anyone thinks.

File Complaints Here

Writing to members of Congress with complaints pays off faster than writing to the agencies themselves, says an item in the *Wall Street Journal*. A survey of 22 agencies shows the bureaucrats required 15 to 49 days to reply to complaints direct from citizens. Gripses routed through congressional offices were handled 10 days faster.

THE MACARONI JOURNAL



Gianna "Mama D" D'Agostino, of iv-cooking and cookbook fame, serves up proof-packed pasta at Minneapolis' popular Sammy D's restaurant.

The proof is in the pasta!

If it looks good and tastes good. That's good pasta! But good pasta requires good products. Like Amber's Venezia No. 1 Semolina, Imperia Durum Granular, or Crestal Fancy Durum Patent flour.

Thanks to uniform high quality, color and granulation, these ingredients make your pasta operations run more smoothly.

Amber works exclusively with the finest durum wheat grown by farmers of the northern plains. And Amber grinds this fine durum in its modern efficient mill.

And Amber serves you right...by matching your specs and by shipping when promised. And the consumer gets a break, too, because the proof is in the eating. Call Amber now for your own proof.



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MICROWAVE MACARONI DRYING

by Allen L. Katskes, Microdry Corporation
at the Plant Operations Seminar

Microwave drying is a revolution that is more extreme than any phase of development of the macaroni industry since its inception. We have gone from screw presses to hydraulic to continuous in a rather orderly manner. The same is true with drying—until now. Finally we have the ability to do what we have been trying to achieve for hundreds of years—drying macaroni products from the inside out. Until now we have had to wait for the product to "sweat" or "rest" so that the moisture would migrate to the surface, where we could again dry some more—in small stages. We had to be careful not to "case harden" the product so the moisture would not get trapped, thereby causing the product to keep drying on the outside, but not properly, and "check" at a later date, when that interior moisture finally did make its escape.

Microdry greatly reduces the propensity of a product to check. The critical tolerances are much wider with Microdry because the electrical energy penetrates to the center of the wall of the product and drives, by force, to the surface, that easily trapped moisture that used to be the bane of the Macaroni Industry's existence.

Other Advantages

There are many other advantages to Microdry processing. The following is a review of the advantages to a macaroni manufacturer in using the Microdry Microwave Dryer for processing his products.

1. Space Utilization: you get three to four times the production in the same square feet of floor space. With building costs soaring it only makes sense to keep them as minimal as possible. You could ultimately avoid an expansion of building for production purposes by utilizing Microdry.

2. Time Utilization: It only takes 1½ hours from the press to the dryer discharge with the Microdry. Of this time 45 minutes is drying and 45 minutes is in-act equalization. Using the same hours in your production sched-

ule as you use with conventional drying (8 hours) you increase productivity 5.42% on a five day basis.

3. Product Quality: The Microdry actually produces a better quality product than conventional processes. The quality superiority is in the cooking strength and "bite" when ready to eat, and color enhancement and microbiology when presented in the package. We will be pleased to submit samples of product made on the same press, same die, same raw material, but dried in conventional and Microdry units. You will readily see the color differences, cook and taste the bite differences, and measure for yourself the starch sluff off of each product.

Plate Count Good

Total plate count comparison of egg products on 15 consecutive days in a plant that has exceptionally good manufacturing practices between two lines, one conventional, one Microdry, running the same product from a common raw material source, shows by measurement Microdry kills Salmonella, Staph, E. Coli, Coliforms, Mold and Yeast. One manufacturer who uses only Microdry runs microbiological tests daily and after almost a year of operation has yet to have a total plate count of over 200 in an industry where 50,000 has generally been considered acceptable.

The color enhancement is achieved because of exact humidity control during processing combined with the fact that less oxidation of the pigments occurs with the Microdry process. We claim that practically the same color will come out of the dryer in finished form as goes into the dryer wet off the press.

We believe the superior cooking quality is a result of the high heat achieved in the Microwave section that causes an enhancement of the gluten quality along with a melding of the starches to create a more cohesive product that better resists the breakdown of starches during the boiling process.

4. The Sanitation Advantages of the Microdry are numerous. It takes

only six man hours to clean the Microdry as opposed to 24 man hours and up in a conventional dryer. Dryer for dryer, you will save at least \$100 each time you clean. The Microdry has complete accessibility from the outside. A unique product guide that drops down with a flip of a handle permits complete access to all areas between the screens. Because the dryer is all stainless steel it can be washed or steamed down if desired. It is equipped with floor drains.

5. Construction: The Microdry is all stainless steel and uses polyurethane foam for insulation. Even the racks, structural members, and chains utilize stainless. The Microdry is pre-assembled in our plant. The fans, screens, radiators, and wiring are all in the unit. The dryer comes in three basic pieces—top pre-dryer, bottom—microwave/cooler, and microwave air system. It can be installed in about 1000 hours as opposed to 60,000 to 8000 man hours consumed in installation of conventional European units. Your plumbers must complete the piping from the radiators. The electricians only need to wire from terminals in the dryer to the control panel and from panel to main. They must also wire from the main to the Microwave Power Generator. Western Globe Products of Los Angeles installed their unit in 830 man hours, including those expended by Microdry personnel.

6. Operating costs are considerably lower with Microdry. A study conducted by Lipton in 1972 indicated that total costs of operation of two units, one Microdry, one conventional were \$4.67 per hour for the conventional and \$3.44 for the Microdry or \$1.23 per hour less for the Microdry or a 35% savings. These costs included utilities, sanitation, maintenance, and power tube cost.

Some preliminary tests conducted by ourselves in cooperation with some macaroni manufacturers indicated that Microdry used from 25% to 50% less BTU's for drying than conventional dryers. Four tests conducted, drying identical product, 2 Microdry

units and 2 conventional units, resulted in the following BTU consumption.

D) Conventional = 470 BTU's Per Pound of Finished Product

B) Conventional = 397 BTU's Per Pound of Finished Product

A) Microdry = 318 BTU's Per Pound of Finished Product

B) Microdry = 242 BTU's Per Pound of Finished Product

A and B Microdry Units were exactly the same design except B had an insulated air system, A did not.

Another operating feature of the Microdry is the tab system used as a shield over the screen chains. If product should get under the product guide the tabs will prevent it from becoming contaminated in the chain.

Each pass of the dryer has a self-cleaning feature that causes chips and small pieces that should work their way between the screen to discharge out the side of the dryer instead of working their way back into the product stream.

Microdry has attempted to reduce waste to a minimum. One manufacturer who regularly produces over 500,000 pounds per week runs a waste factor of about 400-600 pounds per week. Many conventional dryers run this much per day with considerably less product throughout.

7. Operating Ease—Microdry has attempted to create a dryer that takes a minimum of skill to operate. As Golden Grain's San Leandro Plant Manager, Bill Hoffman so aptly expresses it, "I can take a man off the street who has never seen a macaroni plant before and have him competent to operate a Microdry in two days. I would consider myself lucky if that same man could competently operate a conventional dryer in two years."

One of the advantages Microdry offers is for you to send your production people into the Golden Grain Chicago plant for a few weeks of familiarization so that when the unit comes into your plant your people will know enough about the unit to competently operate it. We also send a person, knowledgeable in Microwave macaroni drying into your plant for start-up.

The entire dryer is operated from a graphic panel that shows every function occurring in the dryer. All drives are dc driven with SCR controller.

that can be infinitely varied with great accuracy. The instruments utilize electronic dew cell sensors that eliminate the need to keep wicks constantly wet and water bottles replenished—all of which usually manage to clog up or run dry, as you are well aware, at two or three A.M.

Three Stages of Drying

The three stages of the dryer are controlled in terms of relative humidity.

The first stage, or pre-dryer, is a high static pressure unit with vane axial blowers instead of fans. It has an accuracy of $\pm 1/2\%$ across the screen. Conventional units sometimes vary as much as $\pm 5\%$ across the screen. We dry in the first stage to a target level of 17½% without fear of case hardening the product. Operating temperatures are in the 160-180° F range. Product is in this stage about 30 minutes.

The second stage or Microwave portion of the dryer has the ability to bring the product down to the target finished moisture in 10 to 20 minutes, depending on the product and load. The microwave energy penetrates to the center of the product, drives the moisture to the surface where the hot air system carries it away. The microwave energy can drive the moisture to the surface in minutes where in a conventional dryer that moisture migration to the surface takes hours. Because of the force of the microwave energy we don't have to be as concerned with case hardening or trapping moisture in the product as we do with conventional drying. The air temperature in this stage is 180-200°F. Product temperature gets over 200°F.

The final or third stage of the Microdry process is the cooling and equalization stage. It is just as vital to the process as the previous two steps. We maintain a relative humidity condition here of from 70 to 80 percent. Because the product comes off the microwave at extremely high internal temperature and is drying so fast, this process must be arrested and the product cooled as well as the wall temperature equalized so that the temperature differential between the product and the ambient air, to which it finally will be exposed, must be close enough that it will not cause the product to check or the bins into

which it goes, condensate. Generally we exit from this stage with the product temperature at about 110°F, although it is stable at higher levels. We attempt to do no drying in the third stage. The time in this section is about 45 minutes.

With the above listed advantages of the Microdry system it rapidly becomes evident to the successful forward thinking manufacturer that the drying system we have always considered as a "Someday we'll have," is here, at hand, available and practical for all noodles and all short cuts. Long goods is not far away. We are in the final steps of prototype development. We have successfully dried goods on a laboratory machine.

Free Energy Audit Service

RubbAir Door Division, Ayer, Mass., announces the availability of their new, free energy audit service of having a factory-trained representative inspect your building to determine the potential energy savings that RubbAir Doors can provide.

These computations will include the typical loading dock/receiving area for heat loss in the winter and also the newest applications for shock absorbing, insulated traffic doors: walk-in cooler boxes.

The RubbAir Door representative is trained and equipped with tables, data and an energy slide rule computer to calculate the energy consumption for heat or refrigeration for each opening, factoring important components such as humidity, air velocity and cost of fuel to provide energy consumption figures three (3) methods: millions of BTU loss per hour; cost of fuel loss; BTU loss per square foot.

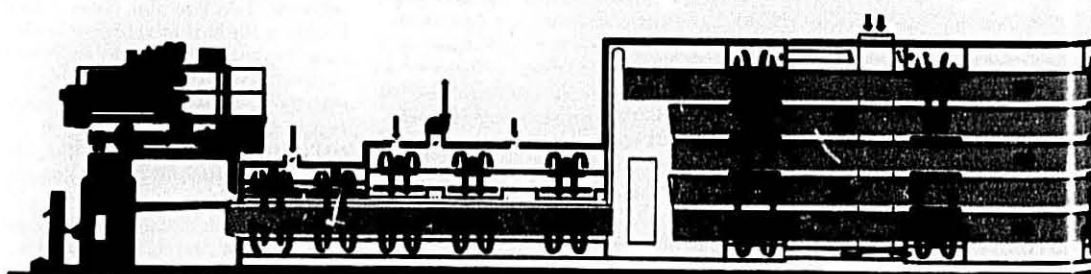
Refrigeration savings are based on common box temperatures ranging from 45° to -20° Fahrenheit and prove that when RubbAir Doors are used in coolers, it is one of the best temperature and money saving ideas you'll ever bump into.

Noise Attenuation

An added feature of the audit service is a noise attenuation chart for determining the effective sealing and sound absorbing characteristics of RubbAir Doors.

(Continued on page 39)

ATR: The hotter, faster, cleaner dryer.



Automatic Extrusion Press
with Spreader

Preliminary Dryer

Final Dryer

Braibanti corporation

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Drastically reduces the time required in the production cycle.

Higher drying temperatures reduce plate counts to well below industry standards while enhancing product flavor and quality.

Electronic controls sequentially start and stop fans as the product moves by.

Pneumatic controls regulate relationship between time, temperature and relative humidity.

At the end of the final dryer, a power-driven cooling section reduces product temperature to a safe packaging point.

Braibanti ATR—newest in the long line of Braibanti pacesetting Pasta Dryers.

Braibanti, the world's foremost manufacturer of Pasta Equipment.



Plate Counts
Slashed.



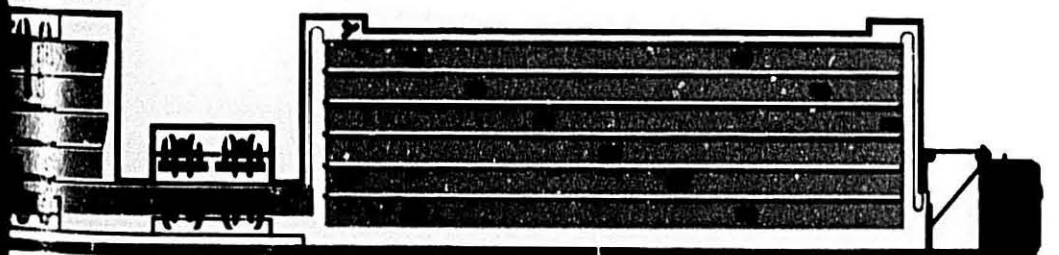
Side Panels Open for
Easier Cleaning
Lock Tight to
Conserve Energy.



Cooking Qualities
Improved.
Stickiness Eliminated



Drying Time
Chopped.



Product Cooling Section

Storage Silo

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He's a Breadwinner

Stunt work demands the strength of a finely tuned athlete — the coordination of a ballet dancer — the nerve of a tightrope walker — the energy of a child. When the crew breaks for lunch he may find himself in a deserted ghost town or barricaded on the 17th floor of a building. Rarely, if ever, is he working near a restaurant.

He's learned that the surest way to provide himself with the energy he requires, is to bring it with him. He likes macaroni — always has. Aside from tasting good, he needs the energy it supplies and likes the versatile ways it can be prepared.

He's probably unaware that his favorite brand of pasta starts at the ADM Milling Company. ADM begins with fine durum, milled into golden semolina. The quality pasta blends are then delivered, clean and consistent, to the pasta manufacturer.

At ADM, we don't mind if this stunt man doesn't know about our contribution to his favorite food. After all, we don't know that much about stunt work. What we do have in common, is the pride we take in the work we do. From the milling center — to the pasta manufacturer — to the consumer.

Breadwinners supplying Breadwinners since 1902.



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Baker's shortening, corn sweeteners, soy protein for the baking industry.

Pasta - A Market on the Move

New opportunities in pasta marketing, merchandising, processing and product development were presented in London January 12 by Pasta Foods at a one-day seminar 'Pasta—A Market on the Move,' held at the Cavendish Conference Centre.

One hundred and fifty delegates representing canners, processors and retailers heard ten experts outline the future for "one of Britain's most versatile food products."

In his introduction, Freddie F. Fox, OBE, Managing Director, Pasta Foods Limited, drew attention to the tremendous growth potential of pasta. The annual consumption of pasta per person in Britain today at 1.73 lbs. per head, is growing fast, but is still far below the figures for America, 9½ lbs. per head, and many European countries. There is great scope on every front.

'Pasta is not only available in dry form,' he reminded the audience, 'but is equally appetizing in its canned, frozen or dehydrated forms. It is not only an attractive food for babies and small children as a snack or main course, but also fits well into such wider connotations as franchise catering.'

Milling

Explaining how semolina is milled to make pasta, Bryan Read, Managing Director of R. H. Clarke's Semolina Mill at Great Yarmouth, stressed the need for high quality Durum wheat, the essential basis of a good product. 'It is the ability of Durum wheat to mill into granular particles that makes it so attractive for pasta manufacture. It gives a dough with the right sort of characteristics for easy extrusion and satisfactory drying, providing an end product that stands up well to cooking and which makes excellent eating.'

'Although Durum wheat can be grown in southern parts of Europe, particularly Italy and Sicily, our purchases are mainly made in Canada and North America, where we believe the optimum quality product is obtained. Experiments are however continuing on the production of Durum as far north as Southern England, but these trials are in their early stages and our weather pattern is not favorable.'

Production Techniques

Sales Director Paul Sugden, until recently running the Great Yarmouth factory of Pasta Foods Limited, talked about production techniques, including the importance of monitoring the quality of Durum semolina which goes into the pasta production for protein, ash and gluten.

Stressing the need for continuous and rigorous quality control checks, Mr. Sugden demonstrated the requirement for stringent checks on moisture content within the pasta and the need that different pasta products have for different moisture levels if they are to remain stable and enjoy an almost indefinite shelf life under normal conditions.

Following Mr. Sugden with a paper on the importance of the dies in the production cycle was Michael McInnery, BSc, Production Services Manager, Pasta Foods Limited. 'When one understands that each pasta shape, will have its own particular extrusion characteristics, you will appreciate,' he told his audience, 'that there is not only an art in die design and manufacture, but also a very highly developed science, involving knowledge of dough rheology, mathematics, and the physics of stress and tension. All this in addition, of course, to very fine engineering skills.'

Marketing

Speaking about marketing pasta, Gordon Telford, General Sales Manager and Roy Biswell, National Sales Manager, Pasta Foods Limited, confidently predicted continuing growth and underlined Pasta Foods' own capacity to meet 90 per cent of all UK pasta needs at the present time.

'The whole attitude to pasta is changing. From being a specialty delicatessen product in the fifties and sixties, it is now being looked upon as an everyday food, especially by the under 35's at whom our recent six figure television and women's magazine advertising campaigns have been specifically targeted. And where it is correctly marketed, with related items, as in the States, the results are dramatic. For every dollar of pasta sold under these ideal circumstances,

nine dollars worth of affiliated lines are sold.'

Frozen Pasta Dishes

Guest speaker, Alan Dullin, BSc (London), Senior Technical Manager of the Food Division, Marks & Spencer Limited, spoke about his company's latest development drive in frozen pasta dishes.

'Seven years ago we launched a joint project with Pasta Foods to develop frozen pasta products, and lasagne was one of its first successes,' he said. 'But lasagne was not only the forerunner of our pasta section, it also triggered off a whole range of snack and main-meal convenience frozen foods and its versatility has proved a great asset in facilitating the development of a whole range of products—many of which have been developed in conjunction with Pasta Foods who supplied the pasta and assisted our manufacturers in getting the new products off the ground.'

'One good example is heat sterilized foods in aluminium pouches. The thinner packaging material and shallower configuration of the pouch means that the heat penetration is faster than in conventional cans and sterilization is achieved with less heat treatment and correspondingly less cooking effect.'

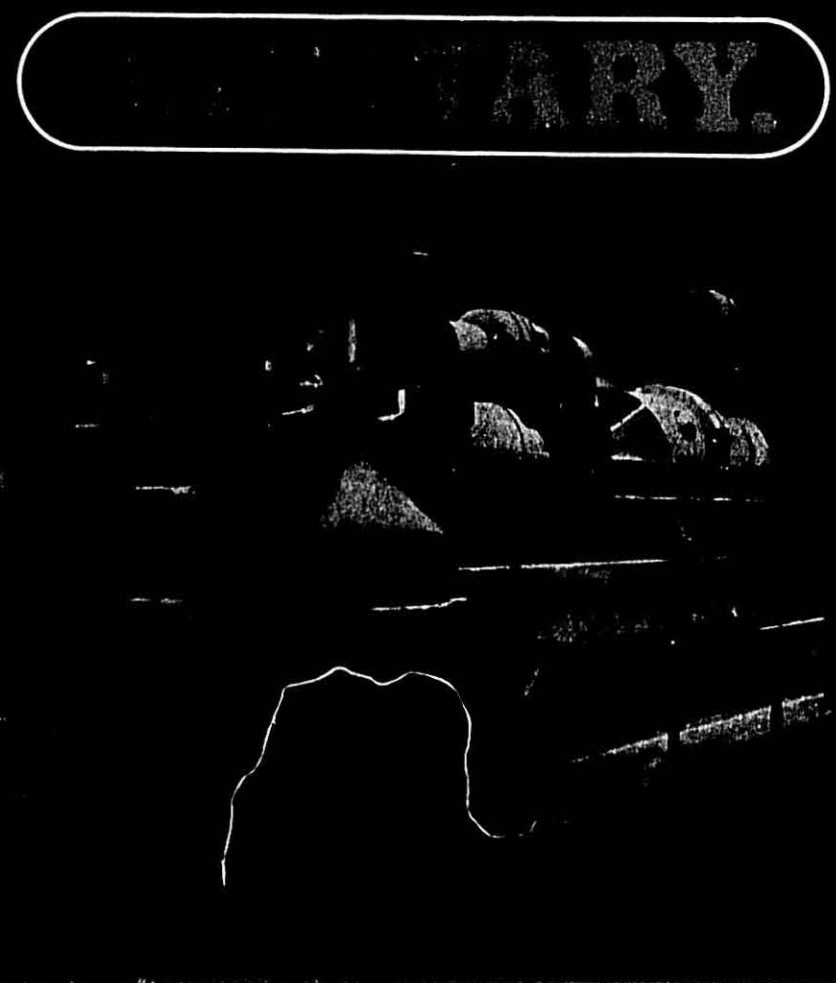
'This resulted in certain foods having a firmer texture and better natural colour and flavour than their canned equivalents. Richer raw materials such as cream, could be used to enhance the quality without over-caramelized effects due to prolonged heat treatment.'

'A few years ago we launched a range of sixteen pouch products covering the whole menu, the first company in the world to retail such a comprehensive range of pouches. Pasta was an integral part of this catalogue: ravioli in meat, tomato and cream sauces respectively high lighting firmer pasta in rich flavoured sauces.'

These were supplemented by a composite pack consisting of a packet of dried spaghetti, a pouch of bolognese or neapolitan sauce and a sachet of parmesan cheese—all contained in a carton.

(Continued on page 20)

THE MACARONI JOURNAL



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Get Full Details on the new Buhler-Miag extruders and other Macaroni Processing Equipment. Call us or write: Buhler-Miag, Inc., P.O. Box 9487, Minneapolis, MN 55440, (612) 545-1401 / Eastern Sales Office: 580 Sylvan Ave., Englewood Cliffs, New Jersey 07632, (201) 871-0010 / Buhler-Miag (Canada) Ltd., Don Mills, Ontario, Canada (416) 445-0010.

Complete Macaroni Plants by

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... ..

Market on the Move

(Continued from page 18)

The concept was that some housewives wanted to be involved in a certain amount of food preparation and therefore required the option of some modification to the meal by the addition of their own special ingredients—a 'be your own chef' approach.

This whole menu range ran for a year and was a technical success from a quality and safety point of view, but not so in marketing terms, primarily because it was a new area of food processing and still in a relatively unmechanized phase of development—consequently the cost of production was high, Mr. Dulin concluded.

Pasta Potential

Michael Keating, Marketing Manager, Open Top Food Division, Metl Box Limited, expressed his belief in the potential of pasta.

Drawing his attention to the convenience desserts market, Mr. Keating said the single most significant change in that sector during the recent past had been the decline in imported canned fruits—largely due to price increases.

'These changes have left gaps and created opportunities,' continued Mr. Keating, 'and what better way to take advantage of these opportunities than with pasta, a product for which there is an underlying substantial growth in demand.'

'I am not now talking about existing products such as canned macaroni. I am talking about building on pasta's undoubted versatility putting it into the innovative packaging that cans provide and producing entirely new canned pasta products—pasta salads and new pasta desserts for instance.'

'We have recently seen the successful introduction of canned pasta shapes and I am sure that developments of this nature will continue.'

'In existing marketing areas there is still considerable scope for the development of further canned shapes and different sauces, but in addition, pasta is just the right product to move into other canned convenience markets. Not necessarily to take a share from existing products, but rather to recreate interest and stimulate growth in these markets. We estimate that Britons are their way through 6,200 million cans of food in 1976 and of that total, some 250 million—just 4

per cent—were pasta dishes. So you can appreciate the enormous potential, he said.

Pasta Development

Ken Spencer, Marketing Director, Pasta Foods Limited, and Peter Dawe, BSc, Development Manager, Pasta Foods Limited, also spoke about pasta development.

'By augmenting our own considerable resources with those afforded us by the Lord Rank Research Centre,' said Mr. Spencer, 'we can offer a product development service second to none in Europe and in some areas, probably the world. He showed slides of the surface of pasta at x75,000 magnification, as well as the same pasta ready to eat on the plate.'

'Technical skills apart,' he added, 'our ability to keep confidences while working on competitive products for different manufacturers simultaneously has earned us an enviable reputation within the development field. We save our customers money if they talk to us early when developing new extrusion ideas.'

Looking to the future, Peter Dawe explained how pasta's exploratory work into new areas of process development provided scope for the production of a whole new generation of pasta products from snack lines to breakfast cereals. He also used electromicroscopy to show how pasta clumping in cans can be caused by protein rather than starch as is generally thought to be the case and talked about the service offered to customers by Pasta Foods Limited in troubleshooting.

Frozen Ethnic Foods

'Pizza and . . . ' is the way most retailers define ethnic frozen, despite the fact that nationality foods, according to industry figures, showed strong growth last year and pizza has become almost as American as apple pie, reports Supermarket News.

Ethnic, including pizzas, account for as little as 1 per cent to as much as 25 per cent of frozen sales. The case space devoted to them is just about as variable. Major factors affecting how individual stores handle ethnic products and how well they do with them include geographical location, local demographics and store size.

Margins on ethnic products tend to run a few percentage points above regular case items partly as a result of frequent deals offered by manufacturers, retailers reported.

'Operators see a 28-30 per cent profit from ethnic, compared with around 26 per cent on standard frozen foods.'

Strong promotions and line extensions by 'ethnic' manufacturers such as Ronzoni, Buitoni and Patio has encouraged multiline manufacturers, including Swanson and Banquet, to produce their own versions of ethnic products. Increased sophistication of consumer buying tastes, particularly in large metropolitan areas, coupled with a desire by retailers to offer products that might make some dent in the eat-out trade, has also helped to put more emphasis on ethnic products.

Economy Appeal

Pizza sales, already strong, began to soar during the period of rapidly inflating food prices several years ago as consumers looked for alternatives to suddenly-too-expensive snack items. The category continued to maintain its growth after it was later repositioned as a main-dish item.

Pizza tonnage jumped 13.7 per cent for the 52 weeks ended Dec. 16, according to SAMI figures, and sales were up 16.4 per cent, to \$465 million. Compared with the \$180 million sales figure for 1972, the category has increased some 258 per cent in five years.

Other ethnic categories also did well for the 52-week period ended Dec. 16. Italian-food frozen tonnage was up 12.4 per cent and sales were up 22.5 per cent to \$130 million, a reflection of many product introductions.

Mexican frozen, predicted by some retailers to be the next 'hot' category, moved up 5.4 per cent in tonnage for the 52 weeks and sales increased 12.4 per cent to \$85 million.

Chinese frozen also showed an increase, with tonnage up 4.2 per cent and sales up 7.4 per cent to \$49 million.

Other-nationality frozen, lumped together, rose a dramatic 18.2 per cent in tonnage and 16.4 per cent in sales to \$6 million.

The introduction of more Italian dishes including lasagna, ravioli and

manicotti dishes, has not cut into pizza volume.

Questions

Do cosmopolitan area consumers buy more ethnic frozen than those in less sophisticated parts of the country? Do product sales match the ethnic demographics of the area, helping sales of those products, or is just the opposite true? Are ethnic products gaining enough general acceptance so that some are no longer considered ethnic? (Is a bagel still an ethnic product in New York, or a Mexican dinner still considered ethnic in Dallas?)

The answer to the first question is a qualified Yes, according to retailers and manufacturers. While it is true that consumers in cosmopolitan areas tend to be more widely traveled and more 'worldly' in their tastes, thus more receptive to trying products of other ethnic groups, a lot depends on how aggressively retailers merchandise ethnic products.

While some retailers feel members of an ethnic group won't buy their own ethnic products (although they will buy products of another group) because they can make them at home, other retailers at least partially disagree.

Sometimes the ethnic group provides a base for sales and sometimes it doesn't, when it comes to first-generation members of that group, the sources told Supermarket News.

Generally, however, second-generation members of an ethnic group are 'Americanized' to the point where they are open to purchases of their own and other ethnic line products, it was said.

Income levels and overall use of convenience foods, which tend to run higher in cost than made-at-home foods (discounting labor and, possibly, waste) are key use factors, the sources said.

Pizza, despite being classified that way by many retailers, in reality is no longer an ethnic item because of its universal acceptance.

Hearty Egg Noodles

The C. F. Mueller Company of Jersey City has introduced new enriched Hearty Egg Noodles. Said to be ideal for use in casseroles and side dishes, the noodles are extra wide. They are available in 8 and 16 oz. cellophane packages.

RONZONI A Family Name



The Ronzoni Family. (Seated left to right): Ralph, Comptroller; Emanuele, Jr., Board Chairman and President; Ronald, Vice-President, Sales; (back row, left to right): Robert, Secretary; Alfred, Vice-President, Production; Richard, Vice-President, Ronzoni Foods Division; and Emanuel J., Traffic Manager. Visible in the picture is the special plaque in memory of the founder, Emanuele, Sr.

From Food Merchants Advocate

Emanuele Ronzoni, born in 1870 in San Fruttoso, Italy, the founder of the Ronzoni Macaroni Company came to this country at the age of 11. By 1888, learning his trade as a pasta maker, Emanuele Ronzoni was working in a macaroni factory at Sackett and Van Brunt Street in New York City. The elder Ronzoni started in his own business in 1892 and, with a partner, opened a small shop near Canal Street. After modest successes, he joined with two other partners in forming the Atlantic Macaroni Co.

In 1895, this company moved to Vernon Avenue, Long Island City, where he spent some 19 years as production head of that company.

In 1915, Emanuele Ronzoni decided to go on alone with his own company, starting the Ronzoni Macaroni Company, with a modest-sized factory at 35th St. on Northern Boulevard, Long Island City.

Before World War I, durum wheat semolina, from which the best macaroni product is derived, was almost unknown in this country. Most macaroni products were imported from Italy. World War I disrupted the im-

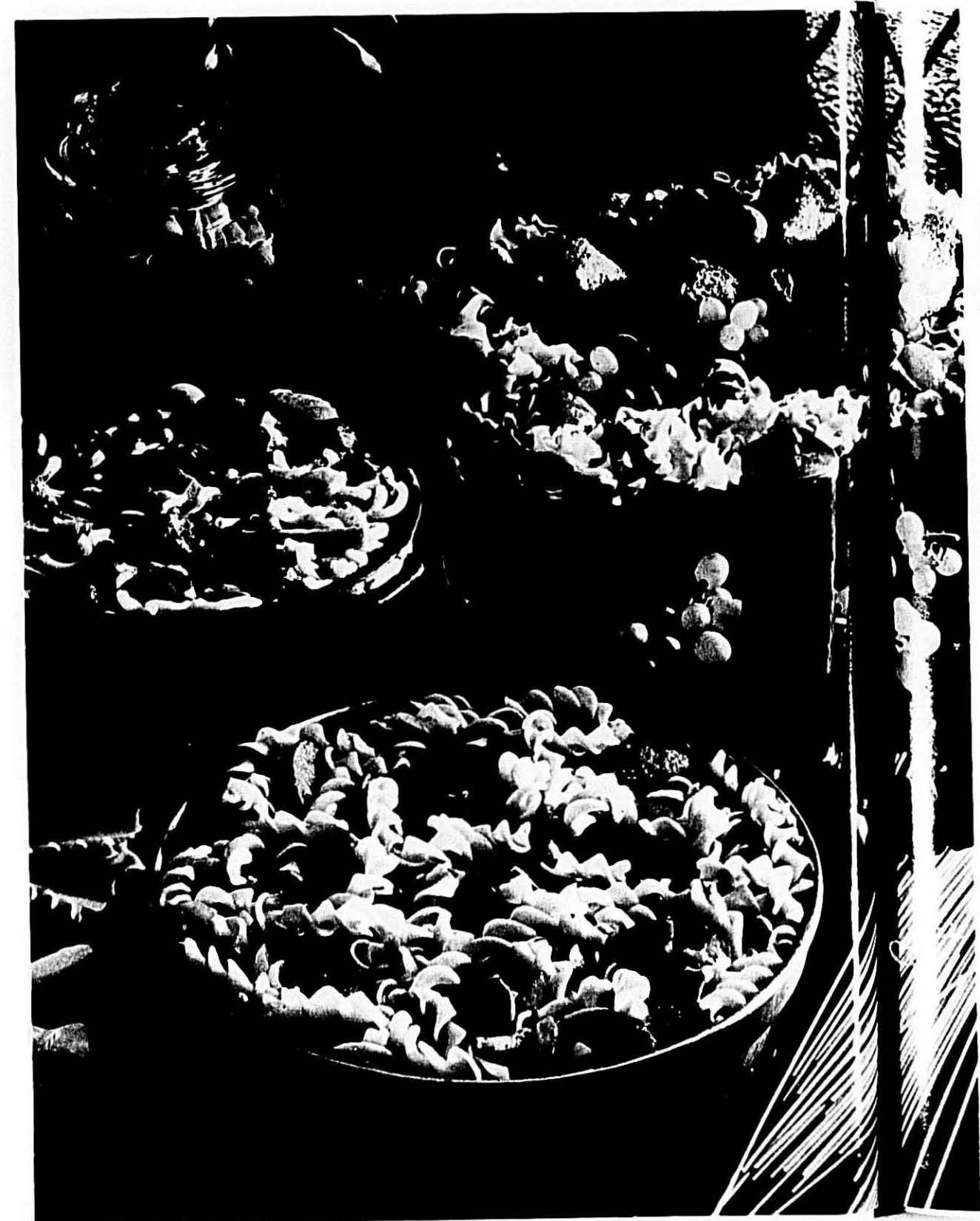
portation of manufactured products, as well as the availability of machinery needed for its manufacture. However, these obstacles were overcome and the domestic macaroni business prospered as American machinery manufacturers saw the potential and made macaroni machinery to satisfy the growing need of this new industry.

Incorporated in 1918

In 1918, Ronzoni Macaroni Company was incorporated under the laws of the State of New York. Because of the untiring personal devotion of the founder and a determined will to produce the best quality pasta, the business flourished. Italian immigrants began to find satisfaction with Ronzoni brand products, especially Genoa style macaroni (fancy-cut shapes) for which Emanuele Ronzoni brand became best known in this country. At that time 'pasta' was considered to be only an ethnic food purchased in bulk and consumed by Italian American people.

In 1925, when volume of business of Ronzoni demanded new and larger quarters, construction started on a

(Continued on page 24)



Pasta Partners.

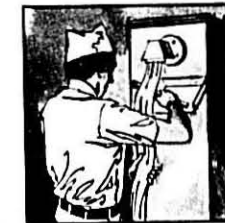


Peavey and pasta makers. Working together . . . partners in profit. Milling of Semolina and Durum flour isn't a sideline with Peavey. We're more in the total people feeding process than most suppliers to the pasta industries . . . from field to table. Peavey is a leading supplier in both quality products and production capacity for service to customers' total needs. We've been at it over 100 years. And we believe our future growth depends on helping our pasta manufacturers grow.

In fact, pasta is a way of life with many of our Peavey people. Everything we do has one objective. To bring you the finest Durum products. With rich golden color. The color of quality King Midas Semolina and Durum flour.

That's why we begin with the North Country's finest Durum wheat. And mill it in facilities designed specifically for the production of Semolina and Durum flour.

We make pasta in miniature press and dryer operations. And we check the pasta for color and constancy. We also work with our customers on new product innovations . . . creative shapes . . . with this miniature equipment. Confidentially, of course.



We even develop recipes using pasta. Like the dishes at the left. Recipes are available to you with no obligation. Just write to Peavey. Anything that helps make pasta more appealing to the housewife is good for the pasta makers. And good for Peavey.

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Peavey
Industrial Foods Group

Ronzoni—A Family Name

(Continued from page 21)

new plant. Emanuele Ronzoni, Sr. was joined by his growing family, two daughters and later, by three younger sons. The company continued to grow under the able leadership of the three sons: Emanuele, Jr. who became executive vice president, Angelo who was production VP, and the youngest son, Raymond, in charge of sales. During this period, Ronzoni started consumer packaging instead of the traditional 20 lb wooden case.

Third Plant

Within 35 years, because of increased demands for Ronzoni products the elder Ronzoni found himself building his third plant in Long Island City, the large modern structure at 50th Street and Northern Boulevard. It was opened in 1950 and is the present site of the company.

It was during the following two decades the company achieved its most significant growth under Emanuele Ronzoni, Jr. who became president after the passing of his father in 1956. Along with his brother Angelo, a brother-in-law, Felix Casareto who ran the shipping department, and Roger Di Pasca who became assistant to the president and general counsel, the company grew to be number one seller in the largest food market in the country—The New York area.

In the new plant, Ronzoni was the first in the industry to go from the 'batch-by-batch' system of manufacture to a continuous operation employing the most modern methods. Angelo Ronzoni created many new mechanical innovations and shapes which were patented, and influenced many of today's production methods.

There is a private railroad siding capable of holding seven cars and a pneumatic system which unloads durum wheat semolina from bulk cars into storage silos from which over 1.5 million pounds of product is manufactured each week.

During the late 50's and the 1960's, the third generation of Ronzonis joined the firm as they completed college. The six sons of Emanuele Jr., Angelo and Raymond soon were involved in the business.

Sauces

Recognizing the need for good authentic Italian sauce, in 1965 the company bought a small sauce busi-

ness in Brooklyn which became the spring-board for the sauce facility opened in 1968 in Hicksville.

The Ronzoni Co. also acquired Julietta Macaroni Co., located on Irving Avenue, in Brooklyn in August of 1969 in order to gain needed extra volume to keep pace with the ever growing demand for the Ronzoni brand on the East coast.

Third Generation

With the emergence of Ronzoni as a leading pasta manufacturer in the country, the third generation began to take on added responsibility and the company showed great progress.

In 1970, Alfred Ronzoni (son of Angelo) became production VP; Ronald Ronzoni (son of Raymond) became sales VP, and Richard Ronzoni (son of Emanuele Jr.) became vice president and manager of Ronzoni Foods Inc., the new sauce plant. Now a new frozen line of Italian specialties introduced in 1975, is also produced in this plant.

Emanuele J. Ronzoni, (son of Angelo), is in charge of the shipping & receiving department, and Ralph Ronzoni (another son of Raymond) is comptroller and office manager. Robert Ronzoni (the second son of Emanuele Jr.) is secretary of the parent company and oversees the Julietta Macaroni Co.

Today, with seven Ronzoni family members fully involved in the day to day activity of the company, the policy of Emanuele Ronzoni, Sr. the founder, to produce the finest quality pasta shall continue to be realized. Because to company execs. Ronzoni is not just a brand name, but their family name.

Pasta Moves in Delaware Valley

Buyer/merchandisers of Delaware Valley area's leading chains and independent wholesalers and cooperatives report that national figures of macaroni sales tie in with their statistics.

National figures show that the sale of pasta products has increased by more than 50% over the past decade. Area buyers added their comments to Food Trade News of Philadelphia.

Their findings include that macaroni sales increase when meat prices soar and that since the macaroni product market peaked and flattened out two

years ago, much of the slight increase since then can be attributed to a proliferation of new pasta products.

George Reith, veteran buyer/merchandiser of Great A&P Tea Co., estimates that the sales of pasta and allied products have increased by at least 50% over the past 10 years.

Reith points out that this has resulted in a commensurate increase in shelf space and facings in the super-market.

"Sales of macaroni, and allied products reached a peak about two years ago," he told FTN. "This was caused by lower meat prices and increased pasta prices, among other reasons."

Philadelphia has a high proportion of pasta product sales compared with other major cities, in Reith's opinion. While he has served with A&P for many years, he has been in this city only since last July.

Previously he was merchandising for the company in Altoona and Baltimore.

There's demand for greater variety of macaroni products in Italian neighborhoods, according to Albert Kritzstein, grocery buyer/merchandiser of Pantry Pride/Food Fair.

Pasta products have achieved great popularity in all Pantry Pride stores, Kritzstein reports, but different cuts of macaroni like mostaccioli, mostaccioli rigati (tubular macaroni), linguine, (thin flat spaghetti) and alphabet pasta sell well in ethnic areas.

More expensive, imported pasta products sell well in stores where Italian-Americans shop, while in other areas spaghetti that sells for nearly a dollar a box won't move at all.

Kritzstein agrees with other grocery merchandisers that there hasn't been a great increase in the sale of pasta products in the past two years.

Among independent owners of supermarkets, sales of macaroni products reflect the same findings as the major chains.

Chuck Swartz, veteran buyer/merchandiser of Thriftway Foods Inc., has been buying macaroni products for little more than one year.

"When pasta products were first assigned to me," he says, "I was surprised by the volume of business the department does in the average super-market."

Volume of pasta sales among Thriftway customers has continued to increase during the past year.

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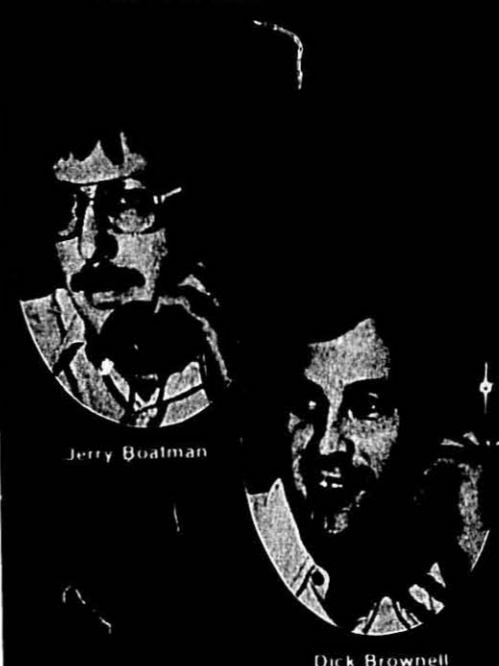
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Durum Wheat Quality

North Dakota Farm Research bi-monthly bulletin reports the overall quality of the 1977 North Dakota durum crop was considered more variable and of lower quality than the 1976 crop. This can be attributed primarily to the problems of sprouting at harvest. The sprouting resulted in 20 to 25 percent of the 62,000,000 bushel crop being sprout damaged. Average grade was 2 Hard Amber Durum compared with 1 HAD for the 1976 crop. Milling on an experimental mill resulted in slightly lower semolina yield. Spaghetti color was excellent but cooking data showed, on the average, slightly higher cooking loss and slightly lowered cooked firmness.

The number of samples tested for quality in the durum wheat variety development program in 1977 were as follows: macro-milling and processing (field plots), 165; micro-milling and processing (nursery samples), 644; micro-mixograms, 483; micro-color, 1198. This gives a total of 2490 samples evaluated.

An additional quality factor receiving emphasis in the durum wheat variety development program is protein quality. Protein quality with respect to its rheological properties or gluten strength characteristics is normally determined by either the Farinograph or Mixograph. Recent experimental data indicate that strong gluten durum wheats provide pasta with improved cooked firmness and cooking tolerance. Durum varieties currently being grown in North Dakota have weak gluten. Because of demands in some areas of the export market for strong gluten durum wheat and the improved cooking quality of pasta processed from this wheat, emphasis is now being placed on the development of stronger gluten durums. A number of experimental durums in the variety development program have quite strong gluten characteristics. These wheats have been developed without sacrificing any other quality factor.

Phytic Acid

Phytic acid is a nutritionally undesirable component of wheat since it chelates minerals and reduces their availability in the diet. Studies were completed this past year on the phytic acid content of six varieties of durum

wheat grown at three different locations in the state of North Dakota. Results showed that durum wheat had relatively high levels of this compound present and that there were significant differences between varieties and locations. The milled fractions of the wheat, namely the bran, semolina, flour and dust, also had significant differences in phytic acid content with the bran containing the largest and the semolina the least amount of this compound. Because of the relatively low levels of phytates in semolina and flour, consumption of pasta products should not cause any adverse nutritional problems with respect to mineral deficiencies.

Encapsulation

The use of encapsulation as a technique to reduce cooking loss of vitamins, amino acids and mineral in food products is being investigated. If successful, this technique will improve the nutritional quality of food products to which these ingredients are added.

Studies are in progress on the effect of high temperature drying on the quality and biochemical composition of pasta products.

SEM is being used as a tool to investigate the micro-structure of pasta products. This technique will be evaluated for its ability to differentiate between samples of uncooked and cooked pasta processed from high and low protein semolina and weak and strong gluten samples.

Sprouting Problem

Sprouting of durum wheat reduces the marketing quality of the wheat and some of the milling and pasta quality factors. Wheat with different degrees of sprout damage will be examined to determine critical levels for adverse quality effects. Biochemical composition, pasta storage effects and SEM studies will also be conducted.

A harvesting study to determine the effect of maturity, harvesting and drying methods on durum wheat and pasta quality is being completed. The results of this study will indicate the relative merits on quality of straight combining versus swathing and air drying versus artificial drying of the wheat harvested at three levels of maturity.

The feasibility of using sunflower meal as a source of quality protein for fortifying food products such as bread, cookies, pasta, etc. is being studied. Efforts this past year were concentrated on removing chlorogenic acid from the meal prior to utilization. Chlorogenic acid is a natural component of the meal which produces undesirable color reactions in acidic or alkaline food products.

Japanese Wheat Team

Nearly fifty Japanese wheat officials will travel to North Dakota June 6-14 to participate in what the North Dakota State Wheat Commission describes as "one of the most significant wheat trade team visits ever in this state."

J. Ole Sampson, Lawton area farmer and NDSWC Chairman, noted that the Japanese delegation will consist of two separate teams and a number of Japanese Food Agency and other high level Japanese officials.

Seminars Scheduled

"The visit will begin with the June 6 arrival of a twenty-four member Japanese Flour Millers Team to attend a three day technical seminar on the NDSU Campus," Sampson explained. "They will be followed by a fourteen member Japanese Pasta Industry Team attending a similar seminar June 12-14," he added.

Sampson said that in addition to the U.S. spring wheat and durum seminars, the team members will be joined by six representatives of the Japanese Food Agency—the Japanese government entity responsible for all wheat purchases—and other high level Japanese representatives at a June 9 recognition dinner in Bismarck at which Governor Arthur Link will highlight the importance of Japan as an outlet for North Dakota wheat classes.

"Such recognition of the Japanese market and the individuals in that nation who helped make it the growth market that it is long overdue," Sampson stated. He pointed out that Japanese purchases of U.S. hard red spring wheat were nearly nonexistent prior to 1965 but now average nearly 25 million bushels annually, making Japan the largest single overseas customers of that wheat class.

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Grain Merchant's Views on Durum

Harvest time spring wheat prices for The Dakotas and Minnesota could be in the \$2.90 to \$3 a bushel range and durum prices could be about \$3.20 to \$3.40 a bushel on a delivered basis to Duluth, says Frank Sims, senior wheat and durum merchant for Cargill, Inc., Minneapolis.

Spring wheat production in the United States has increased constantly during the last three years while consumption has remained much the same at 150 to 160 million bushels, creating what has been called by some a "burdensome supply." "This year's carryover of spring wheat is projected from 320 to 330 million bushels. This carryover in itself will be greater than this year's total spring wheat utilization," Sims says.

Carryover stocks of all classes of wheat are expected to be down about 10 to 11 million bushels due to better exports and an increase in livestock feeding, with hard winter wheat benefiting the most.

More Durum Demand

"We had a decrease in production of durum in Canada as well as in the United States, while seeing an increase in consumption. We are looking for exports this year of about 60 million bushels, which is going to be up from the 45 million bushels we exported last year. Because of that, we have seen much better prices for durum," he says. "I feel the new crop durum market will be most affected by planting intentions in Canada and weather in Northern Africa," Sims adds.

Although Canada cut durum production about 55 percent last year, Sims says he thinks the Canadians will probably increase their durum production 40 to 50 percent this year. A modest increase in California and Arizona durum plantings is predicted, resulting in a 10 to 15 million bushel crop. Weather has affected durum plantings in California. Sims addressed Crops Outlook meetings in South Dakota in late January.

Grain Exchange Officials

Duane F. Stich, vice president and northwest regional manager of Bunge Corp., is the 85th president of the Minneapolis Grain Exchange. He represents

shippers and succeeds Robert T. McIntyre of Cargill, Inc. as president.

Winston R. Wallin, president and chief operating officer of The Pillsbury Co., Minneapolis, has been elected a vice president of the Exchange.

New members of the Grain Exchange Board of Directors are: Donald E. Mahl, head of the Corn Department, Benson-Quinn Co., who represents shippers' interests; James R. Nedbalek, senior commodity futures specialist, Central Soya of Minnesota, Inc., representing futures; and Lynn B. Olson, vice president and regional manager, Continental Grain Co., representing terminal elevators.

Durum Stocks Down

Durum wheat stocks totaled 91.3 million bushels (2.49 million tons), down 18 percent from the 1977 level of 108 million bushels (2.95 million tons). Of all Durum stocks, 67 percent or 61.6 million bushels were held on-farm while 29.7 million bushels were stored in off-farm facilities.

Planting Intentions Up

According to farmers' intentions as of April 1, spring wheat area for 1978 will be decreased 15% from 1977 to 13,246,000 acres, from 15,641,000. January intentions had been for a cut of 12%. Durum acreage intentions are up 29% from 1977, at 4,105,000 acres, against 3,183,000 in 1977, but still 2% below January intentions. But, changes in farm programs cast doubt on validity of estimates.

1978 Wheat Loan Rate

Secretary of Agriculture Bob Berglund recently announced 1978 wheat loan rate as \$2.25, or unchanged from 1977. But, strong likelihood is that the loan will be \$2.35. Food and Agriculture Act of 1977 provides wheat loan of \$2.35, but allows Secretary to set it at \$2.25 if wheat prices in preceding year average below 105% of loan. Current indications point to higher average, hence \$2.35 loan.

Durum Markets in April

No. 1 hard Amber durum ranged \$3.70-\$3.75 per bushel Minneapolis with semolina quoted at \$9.15 to \$9.70 granular 15¢ less, flour 40¢ less.

Dakota Grower Views Soviet Farming

After touring wheat farms in the Soviet Union this past summer, Lansing, N.D., durum and hard red spring wheat producer Wesley Tossett says he realizes "how vital competition and free enterprise are."

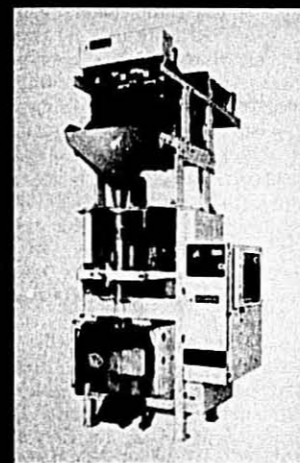
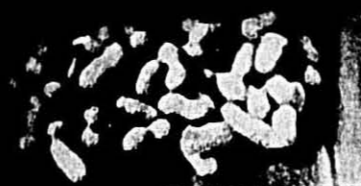
Americans take competition and free enterprise for granted, but in the Soviet Union the government owns everything, he adds. Farmers, whether on cooperative or state-owned farms, sell their grain to the national government, which sets the price. There is no profit incentive, Tossett says.

Tossett was a member of the U.S. Department of Agriculture's Spring Wheat Evaluation Team along with Extension Agronomist Lyle Derscheid of South Dakota State University, Brookings, S.D., and Keith Severin, Foreign Agriculture Service, U.S. Department of Agriculture, Washington, D.C. Tossett, who farms 2,400 acres near the Canadian border, is a national director of the U.S. Durum Growers Association and a state director of the North Dakota Wheat Producers Association.

"What we didn't see of the spring wheat belt was equivalent to the area from Grand Forks, N.D., to Great Falls, Mont. We went where they wanted us to go; saw what they wanted us to see and heard what they wanted us to hear," the North Dakota farmer says.

Storage capacity on Russian farms is limited. In fact, Tossett says he has more storage capacity on his North Dakota farm than what is available on huge state Soviet farms. Soviet farmers can lose a crop after they combine it when they have to store it outside, particularly when they harvest it at a high moisture level. If they get a wet fall, which is probably what happened this past fall, Tossett says, they lose even more of the crop. "What they want is a 20-below October, then they can run it through the grain cleaners outside and save it." If it is a wet year or cold weather comes late, they lose this opportunity. Tossett speculates that loss of part of the crop after harvest might explain the discrepancy between U.S. Department of Agriculture's projections of the Soviet crop size and the figures later released by Soviet officials.

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Multifoods Report

International Multifoods Corp. reported its tenth consecutive year of increased earnings.

Net earnings for the fiscal year ended February 28, 1978, were up 12 percent from \$19,960,000 to \$22,448,000 and earnings per share increased 11 percent from \$2.56 to \$2.83. Sales volume was up 4 percent for the year although sales dollars declined from \$847.0 million to \$822.7 million due principally to reduced ingredient costs which were reflected in lower selling prices.

Multifoods achieved the highest fourth quarter earnings in its history, up 37 percent from the previous year's \$4,651,000 to \$6,379,000. Earnings per share were up from 60 cents to 80 cents and sales increased from \$205.7 million to \$214.0 million. Unit volume was also up 8 percent during the fourth quarter. All four worldwide market areas reported increased sales and earnings for the fourth quarter.

In the 10 years since a new management team was formed, Multifoods has generated annual compound growth rates of 18 percent in net earnings, 14 percent in earnings per share and 10 percent in sales.

According to William G. Phillips, Multifoods' chairman, "Our strategy of accelerating the growth of the Consumer and Away-From-Home Eating areas continued to prove successful as these areas once again achieved record sales and earnings."

He added that the Industrial market area essentially repeated last year's fine earnings performance and the Company's International operations had outstanding record results for the year.

Phillips noted, however, that the good gains reported by the animal feed lines in the Agriculture market were reduced by losses in the firm's commercial egg operations and this resulted in lower earnings for this market area.

President Darrell Runke cited several areas of outstanding strength during the year. Durum and bakery flour in the United States and bakery flour in Venezuela showed earnings improvement. In addition, the King Foods frozen, portion-controlled meat operation substantially reduced its losses.

Phillips said that results for the year were reduced because of an industry-wide illegal strike in Quebec which shut down operations at the Company's Montreal flour mill for 8 months and by a substantial decline in the value of the Canadian dollar. "Together these two factors reduced earnings approximately 50 cents per share," said Phillips, "but these non-recurring losses were offset, to a large degree, by one time gains on the settlement of insurance claims and a lower than usual tax rate on the Company's profit."

Phillips said that the strong momentum gained during the second half of the year should continue into the current year.

Cereal and Bread Congress

Dr. Norman E. Borlaug, 1970 Nobel Peace Prize recipient, and sometimes called the father of the Green Revolution, will be the feature speaker at the closing plenary luncheon of the Sixth International Cereal and Bread Congress in Winnipeg, Canada later this year.

Dr. Borlaug, Director of the wheat program for CIMMYT in Mexico City, will wind up the seven day meeting with a discussion of "Cereals '78: Where Do We Go From Here?"

The theme of the Sixth Congress is "Cereals '78: Better Nutrition for the World's Millions." From September 16 to 22, 1978, this will be the overall topic of discussion among senior cereal specialists from over 50 countries. Their efforts will be directed at expanding man's knowledge of utilizing cereals to feed the world's growing population.

The Sixth Congress is the first to be held outside Europe. It is being organized by the Canadian International Grains Institute in cooperation with the American Association of Cereal Chemists (AACC), and the International Association for Cereal Chemistry (ICC).

Among the participants will be many of the world's leading cereal scientists and technologists, such as Dr. Borlaug and his colleague, Dr. Glenn Anderson, Associate Director of CIMMYT's wheat program. Senior executives from grain processing companies and senior personnel responsible for mechanizing grain processing industries in developing countries will also participate.

American Egg Board

Secretary of Agriculture Bob Bergland has appointed nine members and their alternates to the 18-member American Egg Board which administers a producer-sponsored national research and promotion program to develop markets for eggs and spent fowl.

The newly appointed members and their alternates will serve terms ending Dec. 31, 1979. The members, followed by their alternates, are:

Area 1 (North Atlantic states): Hendrick Wentink, Lancaster, Pa., and William R. Park, Valencia, Pa.

Area 2 (South Atlantic states): Edward L. Houston, Lumber City, Ga., and George P. McCranie, Jr., Tifton, Ga.; Roland H. Coles, Bent Mountain, Va., and Norman W. Sanders, Columbia, S.C.

Area 3 (East North Central states): Clyde I. Springer, Grand Rapids, Mich., and John D. Weaver, Versailles, Ohio.

Area 4 (West North Central states): Franklin J. Rich, Kalona, Iowa, and Gilbert B. Eckhoff, Omaha, Neb.

Area 5 (South Central states): Fred R. Adams, Jr., Jackson, Miss., and James W. Hanna, Jr., Alexandria, La.; Jack M. Dubose, Gonzales, Tex., and John K. Ashby, Clarksville, Tenn.

Area 6 (Western states): Donald J. Long, Burbank, Calif., and Nonie A. McAnaly, Yucaipa, Calif.; Chester Fassio, Salt Lake City, Utah, and Truman Wilcox, Roy, Wash.

The egg research and promotion program is financed through producer assessments authorized by the Egg Research and Consumer Information Act of 1974.

The U.S. Department of Agriculture's Agricultural Marketing Service monitors the program and reviews its budget, plans and projects to assure that the program operates according to law and in the public interest.

Egg Products

Shell egg production was up 2% in March with 1% more layers than a year ago. Eggs in incubators were down 6% on April 1.

April prices:
Central State Nest Run—\$10.50-\$12.50.
Southeast Net Run—\$10.50-\$12.60.
Frozen Whole—38¢-45¢.
Frozen Whites—28.5¢-34¢.
Dried Whole—\$1.42-\$1.55.
Dried Yolks—\$1.40-\$1.51.

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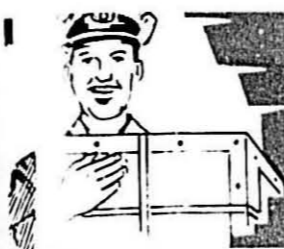
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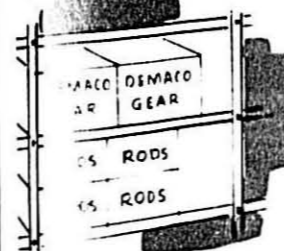


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Paramount Macaroni Uses Metramatic Weight Checkers

"You can have 500 packages in a food store with 499 of them overweight, but just let that last one pack be a fraction under and that's the only one that counts; you're slapped with a \$50 or maybe even greater fine."

That is Joseph Coniglio speaking, vice president and general manager of the Deer Park, Long Island, New York, facility of Paramount Macaroni Company, one of the leading producers and packagers of macaroni, spaghetti, noodles and other pasta products marketed under their own, as well as leading private brand names.

Double-Checking Weights Brings Savings Plus Security

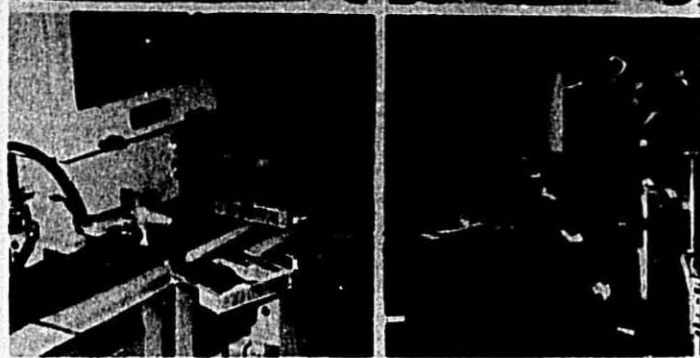
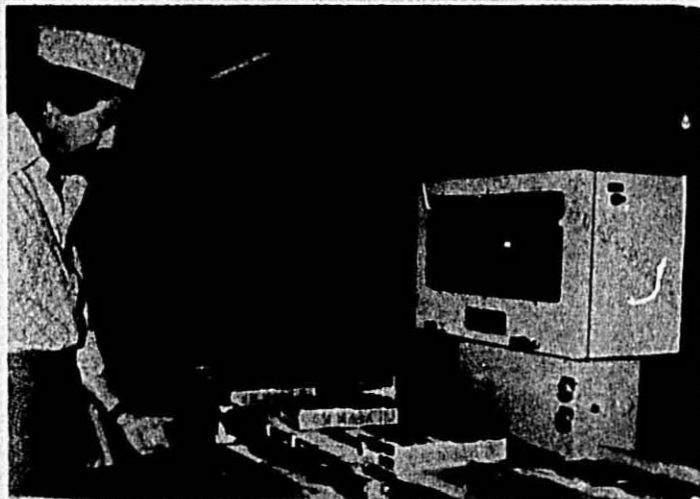
"We have always been concerned with proper weights. Today, however, with new and increasingly stringent legislation, underweight packages are no longer a matter of our keeping faith with our customers as in the past, but can also represent serious financial loss in dollars, time and trouble. Double-checking our package weights gives us security as well as savings."

Paramount Production

The macaroni and other pasta products are produced under extremely quality-guarded conditions from pure semolina. Packaging is in units from four ounces to two pounds for individual packs, or in institutional bulk containers from 20 to 60 pounds.

The product is automatically fed from overhead storage holding tanks onto conveyors, and by gravity to the filling machines on the floor below. Packages are filled by weight, sealed, and travel by conveyor downstream past the Metramatic weight checker; there are three such lines. If a package is under or over the pre-determined weight (which includes allowance for moisture loss during transit and on-shelf storage), the Metramatic instantly triggers a reject mechanism. At Paramount this is an air jet which blows the package off the line. It can also be a "pusher" type (short- or long-stroke air cylinder), single or dual gate, as well as a Metramatic line divider (standard or side push).

After successfully passing the weight check, they continue to the packing stations where they are



At top—the boxes are conveyed from the filling and closing station (bottom right) past the Metramatic Weight Checker which protects against overweight or underweight packages getting into shipment. The Metramatic also tallies and keeps count on the numbers. Joseph Coniglio, Paramount Macaroni vice president and general plant manager, is shown demonstrating the system.

Bottom left—should a package be outside the pre-set weight limits—either over or under—an air jet situated at the left of the Metramatic literally blows the package off the line. In this photo, the jet has been triggered manually because here weren't any offenders to begin the operation.

Bottom right—prepared macaroni is fed to the pouching machine from above. The pouches of macaroni then drop from the output chutes onto a conveyor. Operators take a pouch of macaroni and one (already on line) of prepared mix, and box the two together.

placed in cartons and sealed with tape for shipment.

The filling machine's internal weight control, which apportions the proper amount of product to each package, can vary according to Mr. Coniglio, although this is not usual. However, any variation immediately produces improper weights and, unless spotted, means trouble. Prior to installing the Metramatics, Paramount relied on the machine operator to check package weight on a separate scale near the filling line. Random sampling would indicate whether the

filling machine weigher was functioning properly. If not, the operator would re-adjust it.

However, at the rate of 100 to 200 packages per minute coming from the filler, by the time the operator discovered an error and re-adjusted the machine, a tremendous number of overweight or underweight packages could have gone through. To be completely sure none would be shipped out, it would be necessary to pull out all the production that had gone through since the last accurate re-

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ASEECO BIN STORAGE SYSTEMS

BIN STORAGE

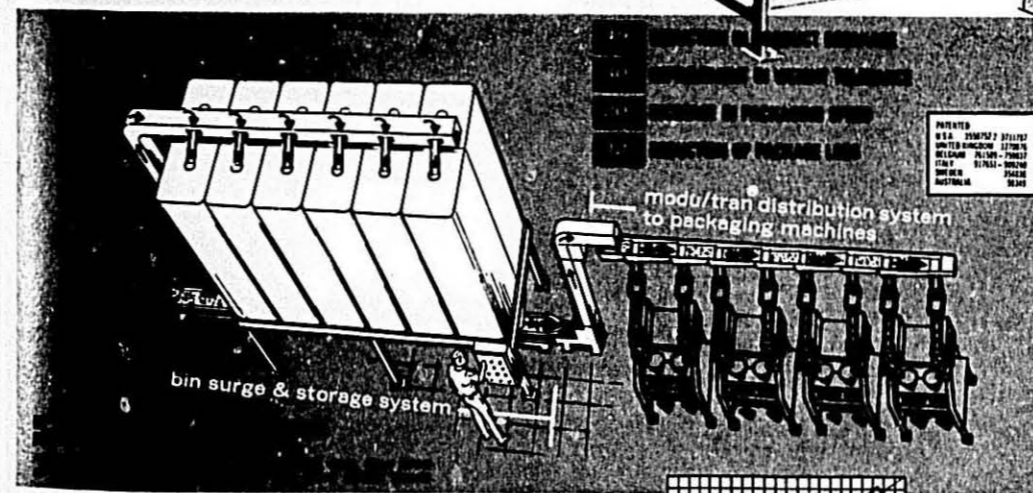
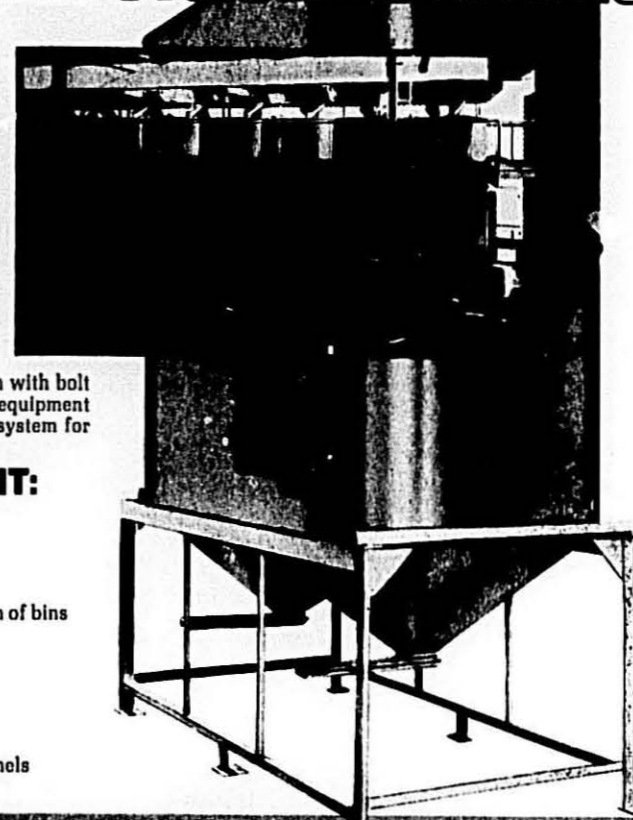
A fully automatic bin storage system for free flowing materials—Product is conveyed from processing into the Aseeco Bin Storage System by means of conveyors. The operator can fill any bin by operating a selector switch at floor level. In a few hours, when the bin is full and a signal is actuated, the next bin can be selected manually or automatically.

Material is discharged from bins on demand from packaging or processing machines. Automatic discharge gates at bottom of bins control material flow into belt or Vibra-Conveyors.

Bins are available in sanitary construction with bolt or weld on support structures. Optional equipment provides for a complete automated storage system for surge storage or overnight storage.

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- Bin full light indicators
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Metramatic Weight Checkers

(Continued from page 36)

ing. With three machines going at once, the problem could be compounded at least three-fold, and this led to the installation of the Metramatics.

Features of the Metramatic Weightec™ Weight Checker

The Metramatic Weightec weight checker features drift-free electronics, and all-solid-state integrated digital circuitry with plug-in components. A most important feature—especially for the food processing industry—is that it can be hosed down for cleaning. Other versatile features are:

- Automatic self-zeroing compensation.
- Elimination of manual tare adjustment. The weight cell is sealed against contamination and never has to be touched.
- Digital display of each weight.
- Electronic damping.
- Options including data processing interface; feedback, tracking and averaging capability; programmable calculator interface and recording; special models for operating under extreme temperature conditions as well as exposure to explosion hazard.

Pays for Itself

Mr. Coniglio feels that Paramount is saving enough in overweight alone to pay for the weight checker, and feels that it definitely has a place in that market. He explains, "... it's very instrumental if you get called in by the Weights and Measures Department. It shows you care and won't just let anything walk out of your plant, no matter what the weight may be. The records show you're doing an excellent job and you're using everything that is available to you in the market to prevent any short weight going out."

For further information on Metramatic weight checkers, line dividers, and metaltec™ metal detectors, contact Alan Bird, Marketing Services Manager, Metramatic Corporation, North Frontage Road, Landing, New Jersey 07850. (201) 347-5200

McCormick Advocates Quality Assurance

A food scientist urges food manufacturers to support a voluntary quality assurance program as one approach to reducing the burden of unnecessary regulations affecting the food industry.

The plan, called the Cooperative Quality Assurance Program, was advocated by Robert N. Reece, Director-Corporate Quality Assurance of McCormick & Co., Inc., the Baltimore-based international producer of seasonings, dressings and specialty food products.

Mr. Reece, a chemist, also is Assistant to the President of the American Society for Quality Control. As such he performs the duties of President-elect.

A participating company, he said, signs a Memorandum of Understanding with the Food and Drug Administration.

The memorandum says, in effect, that a food processor has demonstrated that a sound quality control program exists throughout all phases of the plant operation; and that it is based on critical control point analyses.

"Industry, the public and even the government," said Mr. Reece, "are concerned with excessive regulation, particularly where the regulations are meaningless or difficult to enforce. The sensible approach is minimum regulation where it is absolutely necessary."

"Consumer safety is a common goal of both the Food and Drug Administration and the food industry. Preventing defects first and then taking quick and proper action if they occur can best be realized through cooperative effort—not by edict or legislation."

Mr. Reece said his proposal doesn't seek to avoid responsible quality assurance and safety as now demanded by the federal government.

Quite the contrary, he pointed out, the Memorandum of Understanding obliges the participating firm to carry out meaningful detailed quality assurance programs.

"It's a form of self discipline in food safety," he said.

Moreover, he went on, the Memorandum of Understanding allows for

more selective inspection by the government of substandard food manufacturing operations.

"The ultimate objective," he said, "is the highest degree of quality excellence in our food supply. But the food industry cannot meet this objective if it continues to be burdened with red tape and paperwork which are irrelevant."

The Cooperative Quality Assurance Programs allows the food industry to produce the best possible products thereby providing the consumer with the greatest amount of protection."

New Labeling Requirements Likely

The Food and Drug Administration is mapping out an overall "strategy" for food labeling aimed at increasing and standardizing the information Americans get about what they eat.

Donald Kennedy, the FDA commissioner, said in an interview that his agency soon will issue a "call to arms" for industry and citizen participation in devising new standards requiring ingredient and nutritional labels on almost all foods. He said the agency plans to ask Congress next year for increased regulatory authority over food labels, and hopes to have its new program in effect by late 1979 or early 1980.

Mr. Kennedy said the new labeling approach is necessary to replace what he called the "ridiculous, Rube Goldberg schemes" under current rules that govern when, where and how much ingredient and nutritional information is given to consumers. "The current rules, which require disclosures on some foods but don't on others, often leave consumers perplexed and annoyed" about food contents, the commissioner said.

Uniform Format

The moves being considered generally are aimed at requiring more products to carry such disclosures, making the information more prominent, and establishing a uniform format for it, Mr. Kennedy said. "The cosmic strategy behind all this is to get people to take better care of themselves" by giving them more information to help them decide what to eat, he said.

Mr. Kennedy held out the possi-

(Continued on page 38)

THE MACARONI JOURNAL



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See that new flour mill in Albany? It features the very latest in plant layout and durum milling equipment and will produce 4,000 cwt of durum semolina a day.

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New Labeling Likely

(Continued from page 36)

bility that his agency and industry might devise a way to "fine-tune" a voluntary industry-disclosure code before the agency takes formal action as part of its broader program.

The commissioner added that when formal FDA action does come, it likely will result in requiring manufacturers to declare the total sugar content of their products, rather than just the amount of sugar added. And Mr. Kennedy said he's currently inclined to require the disclosure on some sort of weight or percentage basis, rather than on the "grams-per-serving" standard some companies have suggested.

Standardized Foods

Another area the commissioner marked for revision is standardized foods. These are products, such as ice cream, that must be made according to a basic FDA-written recipe. Currently, Mr. Kennedy said, the agency can't require ingredient disclosure for such foods, and it probably will ask for new legislation to broaden its powers in this area.

Once the agency has established its new program, the commissioner said, he's prepared to deemphasize certain other areas that previously have been targets of FDA concern. These areas include food names and the use of terms such as "imitation" to describe food products of the same nutritional quality as the products they substitute for.

But Mr. Kennedy said he doesn't yet know just what the agency will do about such issues, and added that it may consider "an entirely different" system of naming substitute products.

FDA Food Unit Head

Sanford Arthur Miller has been named director of the Food and Drug Administration's Bureau of Foods, according to Donald Kennedy, Commissioner of Food and Drugs.

Miller will serve as principal advisor to Mr. Kennedy in the development of FDA regulatory policy toward food and cosmetics, and oversee a bureau responsible for regulating much of the nation's \$130 billion food industry. The bureau has a staff of 850, including 350 scientists.

Miller was selected after a nationwide search that included contacts



Tom DeDomenico, Sales Manager for Golden Grain (left), and Raymond Cesco, Assistant Regional Manager for Best Foods, are all smiles after inspecting the outdoor poster featuring a summer salad made with the two products pictured. Postings of this attractive display will appear in major cities and along principal highways of Northern California.

Throughout the special May through July tie-in promotion, grocery shoppers will find a recipe folder and premium offer on jar collars of Best Foods Real Mayonnaise. Additional salad recipes are printed on the back of Golden Grain Salad Macaroni packages. Other in-store merchandising includes a miniature 4-color stock card of the poster with sunburst for use as price marker.

with more than 400 consumer, industry, professional and public groups.

He was one of the principal nutritionists consulting on food safety at the White House Conference on Food and Nutrition in 1969. Since 1972 he has been a member of the committee on GRAS (Generally Recognized as Safe) food substances of the Federation of American Societies for Experimental Biology, an advisory group conducts studies and advises FDA on food safety.

Besides being a professor in the department of nutrition and food science, Massachusetts Institute of Technology, Miller also has served since 1970 as director of MIT's training program in oral service. Since 1963, he also has been visiting nutrition lecturer at Tufts University school of dental medicine and at the medical schools of Boston University and Harvard. He has written more than 100 articles and scientific papers on nutrition and food safety.

A committee chairman of the American Institute of Nutrition, Miller has served on the board of the Institute of Food Technologists. He was chairman of the Gordon Research Conference of Food and Nutrition, and a session chairman at the 1977 Western Hemisphere Nutrition Congress.

Hot Meal Ideas

"Terrific Hot Meal Ideas" are the subject of a two-page, four-color ad for Chef Boy-ar-dee products appearing in April 24 Family Circle and other magazines.

The ad features six ways to "keep family meals different and delicious" by using these Chef Boy-ar-dee products: Mini Ravioli, Spaghetti & Meat Balls, Roller Coasters, Meat-ballaroni, Beefaroni and Beef Ravioli.

Right in the ad is a 15¢-off store coupon good on the purchase of any two Chef Boy-ar-dee products in the 15-oz. and 40-oz. size.

Potato Forecast

Spring potato production this year is expected to total about 19.7 million hundredweight, down 14% from last year's output of 22.9 million hundredweight, the Agriculture Department said.

In its first potato forecast of the year, the agency said yields of spring potatoes, which normally account for about 7% of U.S. potato production, were hurt by unfavorable weather conditions in several key potato-growing states.

74th Annual Meeting, NMAA
July 9-13, 1978

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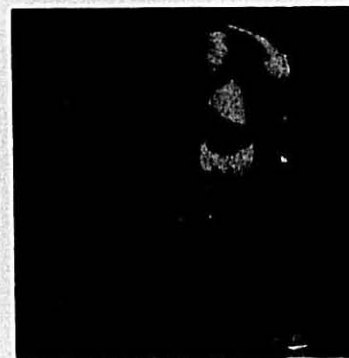
RubbAir Doors

(Continued from page 13)

RubbAir Doors are custom built traffic doors used for all applications and even after 25 years, these doors are still "hanging in" for customers and meeting their environmental control needs. All doors are individually fabricated according to customers' choice of model, window, color and features, depending on each application. Presently there are over 160 designs.

The doors and the door energy audit service are available for all types of uses from food processors to supermarkets to industry. For addi-

tional information call 617-772-0480 or write for no-obligation audit appointment at RubbAir Door, 1 Groton-Shirley Road, Ayer, Mass. 01432.



Judi Adams Honored

Judi Adams, Nutritionist for the North Dakota Wheat Commission, Bismarck, was named "Outstanding Young Home Economist" at the State Home Economics Convention in Fargo, April 21 and 22.

This is the first year the award was given by the 400 member organization and is designated for home economists 30 years of age or younger.

Ms. Adams has been with the Wheat Commission since 1973 and is in charge of domestic marketing. She was instrumental in the recent successful effort to put bread flour in 25 pound bags on the retail shelves in North Dakota. The success was possible by the support of numerous home bakers, North Dakota State University Cereal Technology Department, the State Industrial Commission and the North Dakota Mill who is marketing the flour.

Ms. Adams develops spring wheat and pasta recipes suitable for school food service, restaurants, institutions and for the general public. Nutritional information is distributed throughout North Dakota and the United States through her contacts with professionals in home economics and food related organizations. She represents the Wheat Commission in cooperative efforts with the National Macaroni Institute and Durum Wheat Institute in the promotion of pasta products in the United States.

In 1974 Ms. Adams worked for three weeks in Latin America to encourage the consumption of wheat by teaching basic nutrition and developing and

distributing feasible recipes.

Ms. Adams has a master of Science Degree from the University of Wyoming and was Foods and Nutrition Specialist for the State Extension Service at NDSU from 1971 to 1973. She is a past president of the North Dakota Home Economics Association and past chairperson of the National Wheat Foods Council. Other memberships include the National Federation of Press Women, Society for Nutrition Education, Nutrition Today Society, Bismarck-Mandan Nutrition Council and chairperson of the Advisory Council for the NDSU Foods and Nutrition Department.

Changes at Muellers

Mr. Richard A. Post, Executive and Financial Vice President of the C. F. Mueller Company, will retire from active employment on June 30, 1978. He will have completed 30 years of distinguished service to the company.

Mr. Edwin J. Geils has been elected Vice President-Finance to be effective upon Mr. Post's departure. Mr. Geils, presently Secretary-Treasurer, has served in several management capacities within the financial area.

Mr. John D. Keith, concurrently, has been elected Secretary. He will retain his title and duties as Controller.

At Foremost-McKesson, Inc.

Thomas E. Drohan, president and a director of Foremost-McKesson, Inc. has been elected by the board of directors to the post of chief executive officer, effective April 1, 1978.

At the same time Neil E. Harlan, vice chairman of the board of directors, will also become chairman of the executive committee.

William W. Morison, who is presently chairman of the board, chief executive officer, and chairman of the executive committee, will continue as chairman of the board.

Morison stated that these top executive promotions are another step in the planned succession of the leadership at Foremost-McKesson. Drohan, 50, became president of Foremost-McKesson on January 1, 1978 and was formerly executive vice president. Harlan, 58, who became vice chairman of the board on January 1 was also formerly an executive vice president of the corporation.

74th Annual Meeting Coming Up!

The 74th Annual Meeting of the National Macaroni Manufacturers Association returns to Del Coronado Hotel in Coronado, California, July 9-13.

The charms and splendor of the hotel have graced the western resort scene for nearly a century—yet this majestic establishment has never been more alluring than it is today. As a haven for relaxation and wonderfully varied resort activities it has no peer.

The hotel epitomizes the grand manner in a superb garden setting surrounded by stately trees and framed between the sparkling Pacific and Clorleta Bay.

Coronado is a suburb of San Diego, and San Diego has the best of California with a dash of international flavor added for rest. It is actually just a short 20-minutes from the Del Coronado hotel to Tijuana, Mexico. Enjoy everything from duty-free shopping to the excitement of racing and Jai Alai in foreign country atmosphere.

Across the Bay in sunny San Diego, world famous San Diego Zoo and Balboa Park offer unique exhibits and striking scenic delights. Mission Bay Aquatic Park is a ranking mecca for small boats and sailing craft. Sight-seeing points of interest include Cabrillo National Monument—charming LaJolla with intriguing shops and beautiful homes—plus San Diego Harbor.

Strong Business Program

The convention program will concentrate on industry problems from economic matters to product promotion. There will be an election of officers.

On the social scene, an Italian dinner party is planned for Monday evening. Tuesday night will be open so you may take advantage of the San Diego area. A dinner dance will be the feature on Wednesday evening.

A tennis mixer and golf tournament are being planned. The hotel's beach and tennis facilities include a heated turquoise pool, cabana circle with poolside sunny terraces, and acres of white sand beach. Children's supervised activities are available for the younger set.

On Thursday morning, July 13 the Board of Directors holds its final



meeting with adjournment in time for afternoon checkout.

We hope you will come to enjoy the 74th annual meeting.

Hershey Technical Center

Hershey Foods Corporation announced that it will construct a \$6.7 million technical center in Hershey, Pa. Completion is scheduled for September, 1979.

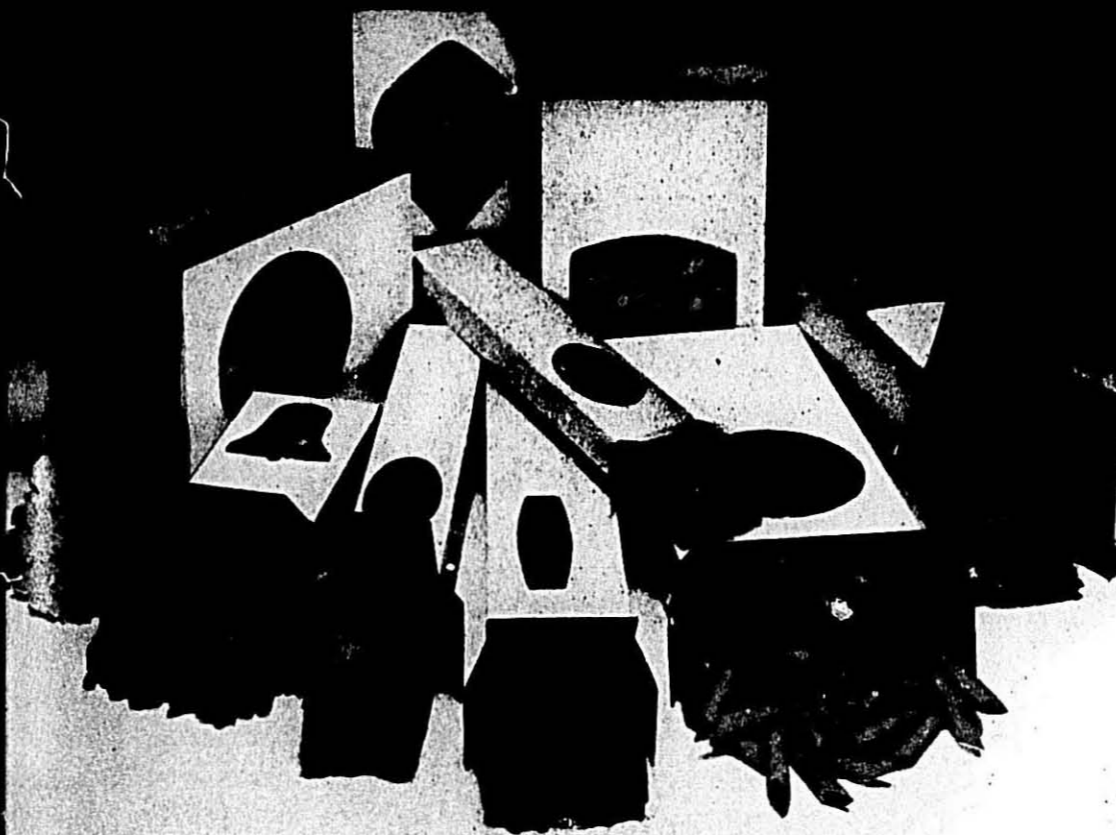
The technical center will house the Central Engineering and Scientific Affairs Departments of the Corporation and will contain offices, laboratories, a library, an auditorium, animal testing facilities, and a pilot plant.

"This facility will enable us to centralize numerous research and engineering operations that are presently situated in various locations of the Corporation," said Richard A. Zimmerman, president and chief operating officer.

We've been going together for nearly 50 years.



Diamond International Corporation
Packaging Products Division



No Modified Starches

Pasta products are not manufactured with the use of modified starches but are produced by the use of durum semolina, durum flour and to a certain extent farina and hard wheat flours, the National Macaroni Manufacturers Association stated recently.

NMMA protested information derived from the tentative report of the Select Committee on GRAS Substances, Federation of American Societies for Experimental Biology, which indicated that "grain products such as pastas or rice dishes" contained a larger percentage of modified starches than baby foods.

FASEB had relied on a table on the level of addition of modified starches to foods by food categories developed by the National Research Council based on information submitted by food manufacturers.



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