

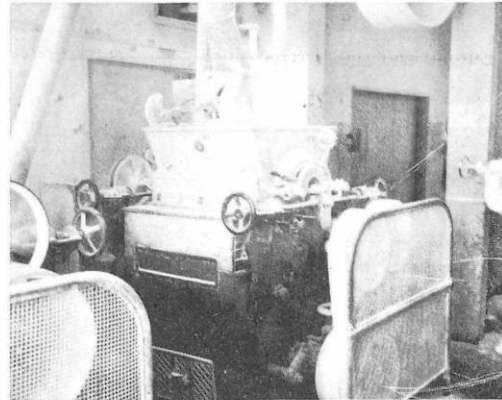
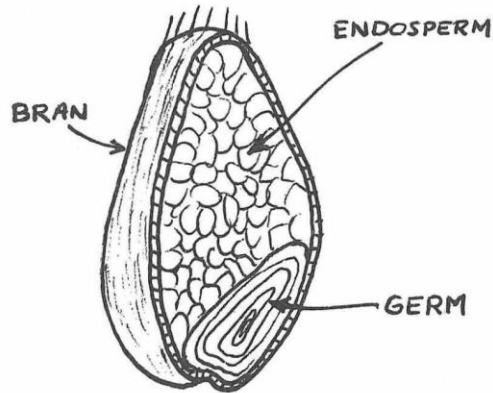
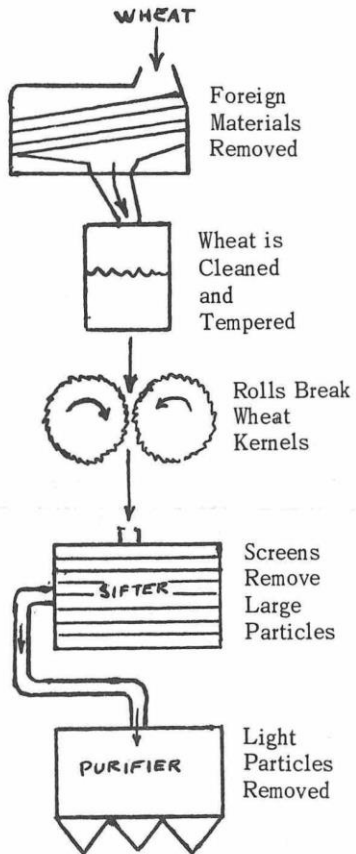
DEPARTMENT OF THE MONTH - FLOUR MILLING

Ever wonder how all those little grains of wheat are turned into flour? It is a continuous system of grinding, separating, regrinding, reseparatoring, etc. etc. We start with a lot of kernels of wheat and we end up with many varieties of flour, bran, germ, feed.

Basically a kernel of wheat is made up of three parts; the endosperm or flour surrounded by a shell or the bran portion and at one end the high protein oily part called the germ. The milling process is to separate the parts cleanly and economically. The wheat kernel must be cleaned, softened (or tempered), cracked open or ground and then the particles must be separated.

The first step in the milling process is to clean the wheat and separate out the dirt, sticks, stones, dead cats, etc. The wheat is then tempered with water so that the shell is soft and may be easily cracked. Then the wheat is ground. Streams of wheat are conveyed into roll stands (see picture) where the kernels fall between two revolving steel rolls. This breaks up the kernels and the particles drop into sifters. The sifters have several successive screens of increasing fineness so the particles are separated according to size. Then the streams of various sizes are run through purifiers where air currents separate the bran and lighter impurities. These steps of grinding, sifting and purifying are repeated over and over until all the parts of the wheat kernel are separated. These products are then conveyed to bulk bins and then packed into small bags, 100 lb. large sacks or into bulk rail cars or trucks. Also flour is sent to the Bakery and Grocery Departments.

The capacity of our mill here in Springfield is about 11,000 cwt. per day which is the same as 11,000 - 100 lb. sacks of flour.



A MILLING ROLL STAND

DEPARTMENT OF THE MONTH - FLOUR PACKING

Of all the flour milled in our flour mill it leaves the mill by one of the following methods:

- 100 lb. sacks
- Bulk railroad cars
- Bulk Trucks
- Small family flour packages
- Grocery and Bakery Mix plants

Getting the flour on its way to the user is the job of the Flour Packing Dept.

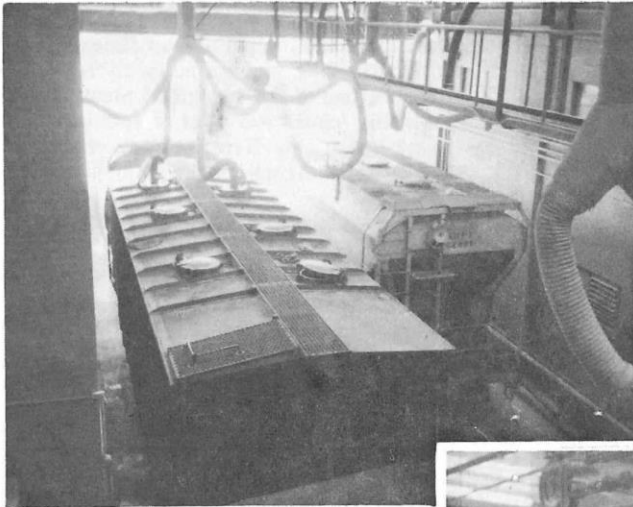
Approximately 750,000-100 lb. sacks of flour are packed here annually. They are packed into cloth or paper sacks on the Richardson packer. (See picture) These sacks move on conveyor belts to the Palletizer, loaded onto pallets and then loaded into boxcars. Most of this product goes to bakeries and jobbers.

Bulk railroad cars are used to ship flour to large bakeries. Empty cars are washed out with water and thoroughly dried with warm air before being loaded. Large hoses are attached to the cars and hot air is circulated through the cars to dry it. Then bulk flour is blown into them. Each bulk car contains about 1000 hundred weight. We load about 4 to 5 cars per week in this way.

Bulk trucks are also loaded in this manner except that the truck line cleans them. About 15 truck loads are shipped each week and each truck contains 430 hundred weight of flour. Most bulk shipments go to bakeries in the Indianapolis area.

Small flour packing is done in the "C" Mill on automatic packaging equipment. 2 lb., 5 lb., 10 lb. and 25 lb. packages are packed to be eventually sold to individual consumers in grocery stores. We produce about 15 million small packages per year. The packages go from the packaging lines to an automatic palletizer where they are put on pallets and then fork lift trucks load them into rail cars.

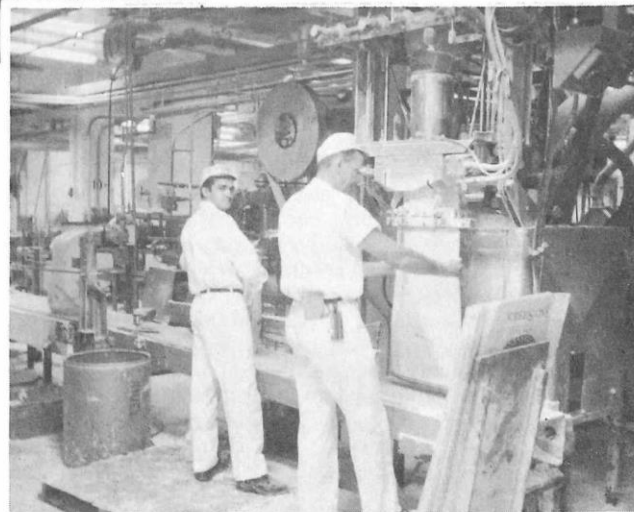
Bulk flour is also sent to the grocery and bakery mix departments for their use in making mixes. The method of transfer is air conveying which is actually blowing flour with air through pipes into large holding bins. The Grocery plant uses about 300,000 cwt. per year and the Bakery plant uses about 650,000 cwt. per year. We also receive flour from other Pillsbury Mills which is used here.



LOADING & CLEANING
BULK RAIL CARS

RICHARDSON PACKING

L to R: Bill Snyder - Sewing
Bill Davis - Packing



DEPARTMENT OF THE MONTH - PREMIX

The objective of the Premix plant is to make the basic ingredient for batter cake mixes, which is called premix. The method used to make Premix is actually what the name "batter" implies. A wet batter containing flour, water, sugar and emulsifier is mixed in large kettles. The wet batter is then pumped up to the 8th floor to the top of the large cylindrical dryers. See sketch. The wet batter is then sprayed into the top of the dryers through nozzles, which spray it in very small droplets. While these droplets fall to the bottom of the dryer they dry as hot air is blown into the dryer. The result is a dry powder-like substance that collects at the bottom of the dryer. This product is then the final form of batter cake premix and is conveyed to bins for use. The premix is then mixed with various flavorings and packaged to make the finished batter cake mixes.

Some Premix is loaded into bulk rail cars for shipment to our plant at Hamilton. Also some premix is packed into 60 lb. sacks.

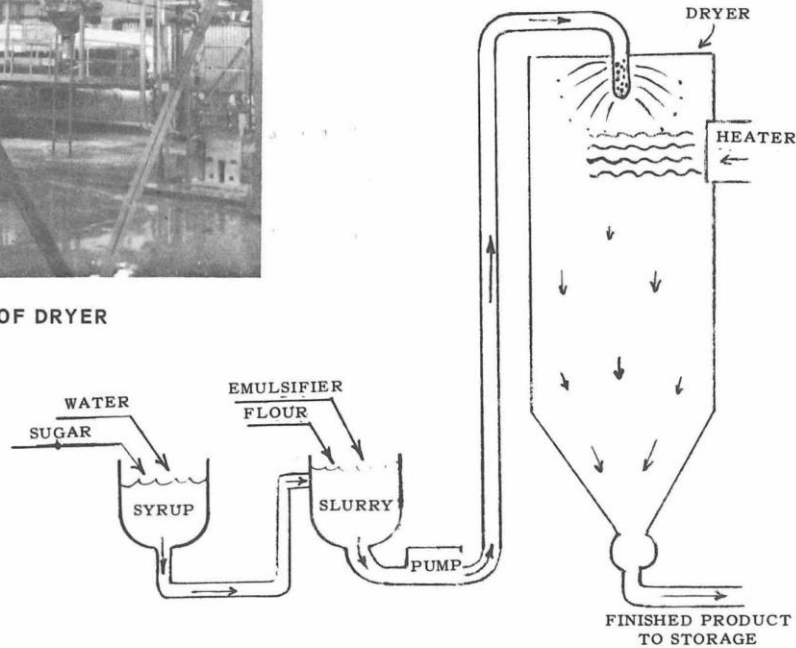
The premix plant has two dryer systems which are very highly automated by Foxboro digital blending systems. These are controlled by large schematic panel boards (see picture) which show the status of all valves, meters and functions of the system. The premix plant was developed and designed primarily by Pillsbury people and the installation cost over \$3 million! It is capable of producing 600 cwt. of premix per shift and is run by a crew of 3 highly skilled employees, as evidenced by the excellent production this past month.



BOTTOM OF DRYER



L. to R: Gus Pietsck, Pryce Utterback, Elmer Moss at the Panel Board.



DEPARTMENT OF THE MONTH- GROCERY MIX COMPOUNDING & PACKAGING

The Grocery Mix products made here at Springfield are Cake Mixes, Brownie Mixes, Pie Crust Mixes, Pancake Mixes, Hot Roll Mixes, and Frosting Mixes. These products are produced in two main steps, compounding and packaging.

COMPOUNDING

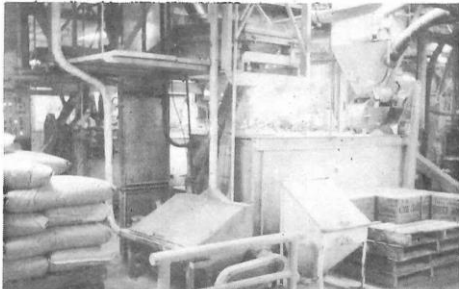
The above products are first prepared in 3000 lb. batches, in large mixers (see photo). The large ingredients such as flour, sugar and batter cake premix are automatically weighed and fed into the mixers. The operator is called a blender. The blender then adds the other ingredients such as flavor, salt, soda, etc. He dumps the proper amounts into a feed-in hopper where it is conveyed into the mixer. The mixer is then started and large ribbon-like blades mix all the ingredients of the mix together. Each product has its own formula of the proper amounts of each ingredient. The blender's job is very important. He has to make sure that the ingredients are in the proper quantities and the batches are mixed the correct amount of time. Completed batches are then conveyed from the mixer into holding bins above the packaging lines.

PACKAGING

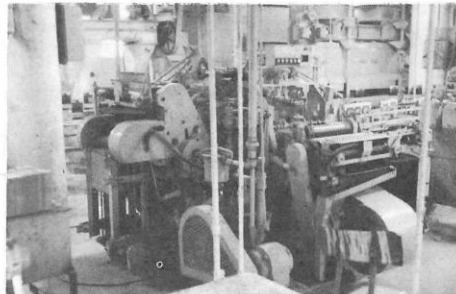
The packaging lines perform the functions of making the individual package, filling the package with mix, sealing the packages and putting them in cardboard cases. These operations are all very high speed and automated. The lines normally operate at about 65 packages per minute.

The heart of each packaging line is the double package maker or DPM. (see photo) This machine takes flat wax paper and flat cardboard printed sheets and forms them into wax paper lined packages ready to be filled with mix. Wax paper from a large roll is formed around a block and glue is applied, then the block rotates to another position where the printed cardboard package is formed around the block and liner paper. The block then moves to another position where the bottom of the package is sealed. An important part of the machine operators job is to see that the amount of mix in the packages matches the recipe so that the product will bake correctly for the customer. The DPM is a remarkable machine. The conveyor then moves the packages to the filler scale where the correct amount of mix is metered into the package. The package then moves to a top sealing machine where the top flaps of the package are glued shut. The complete packages of mix are then put into cardboard cases by an automatic case packing machine or by a woman employee who puts the packages into the case. The cases are then sealed shut and go on conveyors to the warehouse.

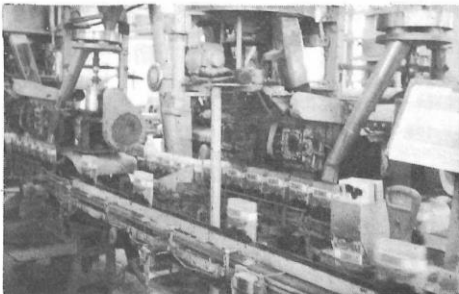
We have 15 grocery packaging lines which are capable of producing from 2000 to 9000 - 12 package cases of various mixes in one 8 hour shift. The Grocery Dept. produces about 12 million cases of product per year.



FEED IN HOPPER AND MIXER



THE DOUBLE PACKAGE MAKER



THE PACKAGE FILLER SCALE



CASE PACKING - HILDA PERKS

DEPARTMENT OF THE MONTH - BAKERY MIX

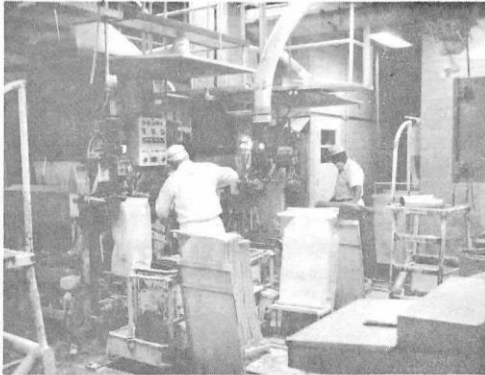
The third main production area of the plant beside the Flour Mill and the Grocery Mix plant is the Bakery Mix plant. The Bakery Department's main job is to produce mixes in large quantities to be sold to large quantity consumers such as bakeries, food chains, hotels, restaurant chains, etc. Bakery Mix products are usually packed in 50 or 100 lb. paper bags or sometimes in large aluminum containers called totes.

The production of Bakery Mixes starts with the large holding bins located in the top of the Bakery mix plant. These bins contain flour and sugar. Flour and sugar are emptied from these bins into scales which automatically weigh the proper amounts required. These scales are controlled by operators who operate panel boards which show the status of all bins, scales, and conveyors. It is very important that exactly the proper proportions of each ingredient are added so that the mix will perform correctly for the customer. When the ingredients are all weighed, the panel board operator pushes a button which opens a valve and the ingredients go into a conveyor where they are conveyed to large mixers.

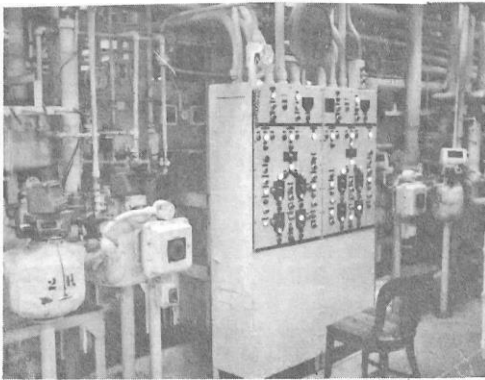
Other ingredients such as color, soda, salt, flavor, cocoa, etc., are hand fed in and go directly to the mixer. Each batch consists of about 3400 lbs. The mixers then thoroughly mix the ingredients. The mixers are emptied into hoppers above stoker packing machines. These packers meter in the proper amount (usually 100 lbs.) of mix into a sack. The sacks are then put on pallets and stored in the warehouse ready for delivery to customers.

Bakery Mixes are also loaded into large aluminum totes. These totes are sometimes shipped directly to our customers but usually are stored in the warehouse and then emptied into a hopper above the Food Service packaging line. This line, known as the 6/5 line, forms paper lined boxes and fills them with 5 lbs. of mix. These products are usually sold to hotels and restaurants.

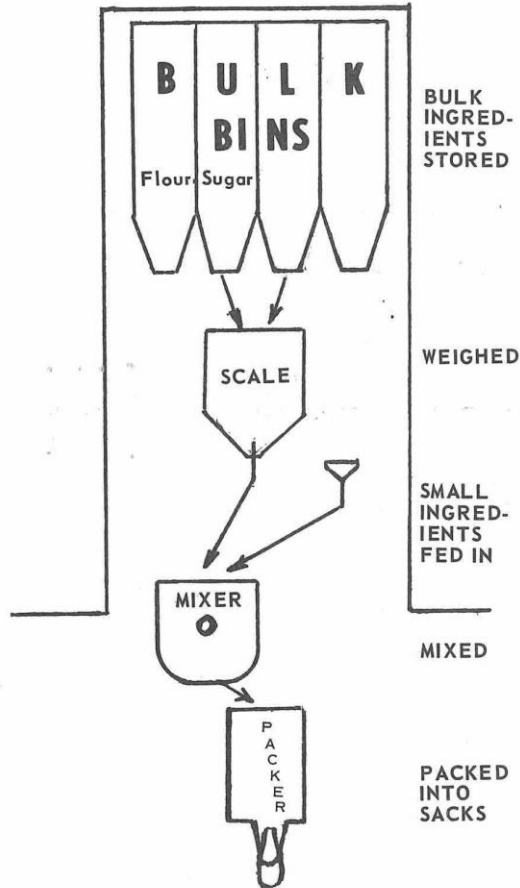
The Bakery Mix products are mostly bread mixes, doughnut mixes, pancake mixes and sweet doughs and cake bases.



BAKERY MIX PACKING (L-R)
ED STANKS, A. PHELPS



BAKERY MIX PANEL BOARD



DEPARTMENT OF THE MONTH - WAREHOUSES

Now that the major production areas of the plant have been covered in recent issues you may wonder how all the products they produce ever get

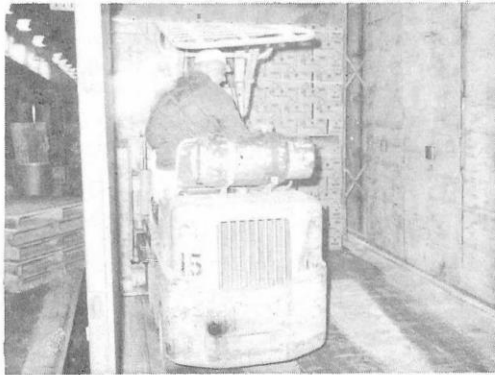
SAFETY TIP

Let's hear it from the fork truck drivers.

YOUR HORN, THAT IS!



Clarence Clark picking up a full pallet load of Farina from palletizer in #9 Warehouse.



Victor Yecunski sets a pallet load of finished goods in a rail car on Track #11 of Warehouse 9.



Lester Buhr loading a truck with Food Service Product.

to our customers. This is the job of the finished goods warehouses. The warehouses store the finished products and load them out according to the customer's orders. There are two main warehouses, the Bakery Mix Warehouse No. 7 & 8, and the Grocery Warehouse No. 9. We will look at these separately.

Warehouse 7 & 8, Bakery Goods and Food Service

Most Bakery finished goods whether in 100 lb. or 50 lb. sacks, and most Food Service finished goods in 6/5 cardboard case, are manually placed on metal take-it-or-leave-it pallets. The metal and wooden pallets are very important in warehouse work because they allow us to handle heavy and awkward loads with a fork lift truck. Fork lift trucks can handle pallet loads of product rapidly and they can stack it high in the warehouses thus conserving space.

Orders for Bakery mixes originate from Pillsbury salesmen, they are then organized and sent to warehouse supervisors by Distribution Planning. Teletype is used to send the orders. Fork lift truck drivers then take the orders and load the ordered quantities of finished products into rail cars or trucks. The fork truck driver must be very skilled because he must be careful not to break the fragile bags of mix and he must load the orders into the rail cars so that the product is not damaged when the rail cars are banged around in transit. The driver must also be accurate in his loading to make sure we send the proper amount of product to the customer as ordered.

The Raw Material Warehouse receives incoming ingredients and Bakery Warehouse #7 stores them to be used by the Bakery plant in making mixes. These ingredients are unloaded from rail cars and trucks. The Bakery Warehouse ships out on the average ten box cars and three truck trailer loads each day.

Warehouse 9, Grocery Mixes

Cases of Grocery Mix finished product are all moved to the warehouse on conveyors. Electric eyes read ink marks on the cases and operate sorting systems to keep various products sorted together. Most cases of product go to large automatic palletizing machines where the cases are automatically stacked on wooden pallets. Fork trucks then take the loaded pallets and store them in the warehouse.

Grocery orders are also received over the teletype and filled by fork lift drivers. Warehouse 9 has 5 rail tracks going into it and can contain 20 to 25 rail cars at once. The fork truck drivers go to the ordered product stacked in the warehouse, pick up the full pallet loads and load them directly into the rail cars. When loads are going to Pillsbury warehouses then the loads are put in the rail cars, pallet and all. The warehouses then can unload them quickly and they will return our empty pallets to Springfield.

An average of ten full box cars of Grocery products are loaded and shipped out every day.

DEPARTMENT OF THE MONTH - QUALITY ASSURANCE

The Quality Assurance Department is a staff function at the Springfield plant organized to assist those directly responsible for production of Pillsbury products to maintain the very exacting standard of quality and production that have been established to give us an edge on competition. Highly qualified supervisors and technicians familiar with the most modern and efficient analysis techniques continually work together to pinpoint the batch, carton or sack of product that is below the acceptance level of "highest quality". A very important part of QA's work is the planning effort that goes on to assure the lowest off-grade possible in the future.

The department is divided into six functions:

Grocery Lab. Located on the 4th floor of Grocery, this is the lab that some think is in the business of making cakes for us to take home. Actually, this is not their purpose at all. By baking, frying or mixing a representative sample of products from all Grocery lines and PreMix, the lab strives to catch and detain any product that doesn't meet specifications and incorporate steps to prevent future off-grade. Mix analysis is also made before actual preparation of food stuffs to prevent off-grade batches from being packaged.

Bakery Lab. The Bakery Lab also tests by baking & frying mixes manufactured by Bakery Mix. Taste, smell, feel and appearance are tested after a food item is prepared. Close watch is kept over oven temperature and amount of ingredients added so that a meaningful comparison to standard can be made. Many items are prepared with built-in mistakes to simulate housewife error. Steps are then taken to assure good food-stuffs even with housewife error. Another aspect of quality assurance is ingredient testing. The bake labs prepare a cake or donut with laboratory perfect ingredients plus an ingredient that is tested.

Mill Lab is concerned with flour quality. Bake tests test the baking quality. Physical qualities are tested to assure proper mixing qualities & contamination. A miniature mill operated by John Andruskevitch tests milling aspects of the wheat. Tests are also performed to assure proper flour makeup for all grades. Many complicated tests are performed to isolate one particular makeup of the flour which indicates the overall quality of the flour.

Ingredient Lab is unique in that Jackie Marcellus, our only female supervisor, is in charge. This lab tests the quality of ingredients we order for all Grocery, Bakery and Mill mixes. Dry ingredients and shortening are tested before

used to insure that they conform to our specifications. The Bacti. Lab tests for contamination of ingredients and mixes, and that is no bull. Entomology. Ed Brunken, our "bug man", follows an intense program designed to keep problems of sanitation and contamination at a minimum in all phases of plant activity.

Packaging Control. Bill Dolsin inspects incoming shipments of liner paper, cartons, packages and sacks to assure they are exactly as specified. The specifications are critical on items run on high speed packaging equipment. The Quality Auditors are Quality Trouble-Shooters for our plant. They research better methods and techniques in all facets of the plant to attain highest quality in an efficient way.



BAKERY LAB

L to R: Johanna Kutchma, Helen Mehlick, Charlie Thompson.



MILL LAB

L to R: Pauline Rethinger, Velma Gristy



GROCERY LAB

L to R: Dorothy DeCroix, Ann Nika

Department Of The Month-Plant Engineering

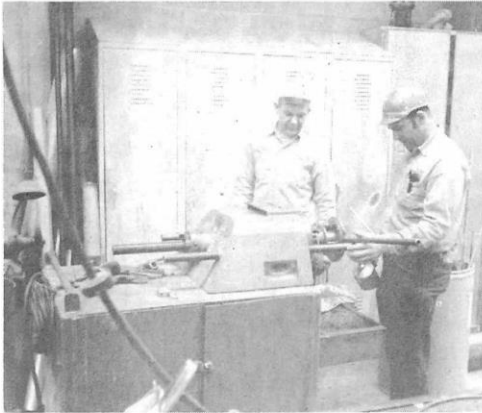
The Plant Engineering Dept. is the department that keeps our plant and equipment repaired, maintained, and in tip top shape. They are also responsible to design and install any new equipment or facilities that go into our plant. This is a very big job considering the great amount of complex equipment we have in this plant. The Engineering Dept. is headed by Virg Kannell and is made up of two functions, Project engineering and Maintenance.

PROJECT ENGINEERING

This group is made up of four highly skilled and educated project engineers and two draftsmen. Their job is to design and direct the installation of new equipment and facilities. Projects are assigned to the engineers who design the layout, the electrical wiring, and the mechanical details required to do the job best. They also estimate and determine the cost of the installation. The drafting section works closely in design with the Project Engineers to provide detailed blueprints of the new equipment. The Project Engineers also coordinate the ordering or construction of the new equipment and its installation in the plant.

MAINTENANCE

The maintenance crews are the men who actually do the repair and maintenance work on our equipment and facilities. There is one crew assigned to each of the three production depts of the plant. These are the Mill Maintenance crew, the Grocery Maintenance crew and the Bakery Maintenance crew. These crews do all the repair and maintenance in their assigned areas. Also there is a plantwide mechanical project crew that does most major new construction projects, and an electrical project crew for new construction and maintenance of our instrumentation systems, automatic palletizers and power systems. The area crews are all made up of the various maintenance crafts which includes: Millwrights, Pipefitters, Mechanics, Painters, Electricians, Tanners, Forklift mechanics, and Ground maintenance men. These men are all highly skilled in their crafts and serve long apprenticeships.



Maintenance Pipe fitters threading pipe.
Left to Right: John Olah, George Reevis

Left to Right: John Pyle-Draftsman, Don Nelle-Senior Draftsman, Gerry Wheeler-Project Engineer.



Department Of The Month - Accounting

The people in the Accounting Department keep track of just about everything that happens in the plant. With these figures they prepare reports and data that show how the plant and every department is performing. The financial status of the plant is kept up-to-date at all times. The Accounting Department is made up of the three areas described below.

GROCERY ACCOUNTING SECTION

This section is responsible basically for warehouses, Grocery Mix, Premix Plant, accounting and plant disbursements. All grocery mix production, ingredient usage, labor and other costs are processed. Reports are prepared daily, weekly and monthly showing the status of production, shrink, per case costs, etc., for the present and compared to last year and compared to the planned forecast. These reports give the management up-to-date figures which will point out unprofitable and inefficient areas of operation. The disbursement clerks verify and pay all bills that the plant has incurred. Time cards are handled here and sent to Minneapolis where our paychecks are prepared.

INDUSTRIAL ACCOUNTING SECTION

This section basically does the accounting work for the Milling and Bakery Mix areas. Records are kept of all incoming wheat and other ingredients and of all finished product in stock and shipped out. Reports are made up showing production, labor, maintenance, sanitation and raw material costs. Also reports are prepared showing the costs and performance of the production areas compared to forecasts and standards to show up-to-date status of all operations.

OFFICE SERVICES SECTION

This section is responsible for data processing, communications, supplies, and mail. The data processing unit prepares reports on the IBM machines and now on the new computer terminal.

We use this area to provide service and information for all areas in the plant. We process payroll inventories and performance reports from this operation. The mail, telephone, teletype and printing is handled here.



Industrial Accounting Section: Standing: Gene Berthold, Dan Locke. Sitting: Pat De Girolamo, Ruth Haasis.



Grocery Accounting Section, left to right: Carol Bonds, Mary Stone, Walt Conley.



Department of the Month - Industrial Relations and Industrial Engineering

INDUSTRIAL RELATIONS

This department is also known as personnel and employment. The primary function of this department is to administer the hiring, record keeping and scheduling of employees and to handle the negotiations between the company and the union on the labor contract. Also the plant guards, nurse and company benefit plans are handled by this department.

Each week a schedule is drawn up by Industrial Relations showing where each man in the plant will be working the following week. This schedule is determined by taking each operation that each department has scheduled to run and assigning the specified number of men to each job qualification. In this way the right men get assigned to work where they are needed and trained to do the work.

Permanent records are kept on all employees and benefit plans are handled. New employees are interviewed, tested and hired here. If any employee has a question on benefit programs, the I. R. Dept. will answer them if the supervisor can't.

The Industrial Relations Department also meets with the union committee to resolve any problems or grievances arising from the labor contract agreement between the company and the union.



Left to Right: Jess Ray, Harvey Turner, Barb Smith, Andy Turner. Seated: Jeanne Schmidt.

INDUSTRIAL ENGINEERING

The function of the I. E. department is to study plant operations to more efficiently utilize plant equipment, man power and resources to achieve lower operating costs. Some of the techniques used to do this are methods analysis, time study, plant and workplace layout and material handling methods analysis. Methods analysis is where the I. E. studies a plant operation and breaks it down into detail and then develops a plan or alternative way of doing the job faster, easier or cheaper. Time study is also used to show how long various tasks take. Time study is done by observing an operation with a stop watch and recording the time it takes to do the various parts of the job. These times are then used to calculate production rates and to determine the most efficient way of doing the job. Layout and material handling are studies of how ingredients and finished products flow and move within the plant and how to utilize space, forklift trucks, pallets and conveyor systems.

Also the I. E.'s work on Cost Control and management. Daily production reports are developed to show the actual production of each operation and shift compared to the standard or designed capability. These reports enable management to keep track of all operations and to quickly spot areas where low production occurs.

When major capital money is needed from Minneapolis to buy new equipment or facilities a request called an I.P.A. (Investment Project Analysis) is prepared by the I. E. dept. The I.P.A. describes the old method and the new method, the amount of money required and the benefits that the plant will realize. The management in Minneapolis must approve all I.P.A.'s therefore we must justify the expenditure.

The I.E. dept. consists of an I.E. manager and two engineers. They must be college trained and have an ability to analyze operations and figures. It is an excellent training ground because the I.E. works in all areas of the plant. We also struggle every month to put together and publish this newspaper.