

Glossy printing papers
Business forms papers
Repro copy papers
Thermal carbonless papers
Offset printing papers
Oil catalogs
Printed materials
Sales literature
Lines
Printer supplements
Envelope sections
Plastic film

Annual reports
Posters
Color calendars
Printed flyers
Point-of-sale displays
Hardback novels
School books
Picture books
Cereal boxes
Mail-order catalogs
Newsletters
Greeting cards
Adhesives
Pesticides

Product packaging
Illustration board
Headache remedies
Cold tablets
Chewable vitamins
Coated aspirin
Prescription tablets
Prescription capsules
Coated tablets
Antacid tablets
Molded shape vitamins
Children's chewable aspirin
Fragrances
Animal feeds

Controlled release systems
Blood pressure medications
Vitamins
Heart medications
Long acting antihistamines
Ulcer medications
Hayfever medications
Granular cold medications
Veterinary medicines
Gravies
Dried fruit
Cookies
Hard candy
Diet drinks

Cakes
Pie fillings
Breakfast cereals
Molded shape candies
Mushroom proteins
Juices
Lollipops
Snacks
Fat replacements
Soups
Dry mixes
Donuts
Non-fat
Non-fat

The**Company****PENWEST**

develops, man-

ufactures and

markets specialty

carbohydrate and syn-

thetic polymer chemicals.

The company also produces

and markets specialty food

ingredients, agricultural nutrition

supplements and pharmaceutical

excipient products.

PENWEST's principal source of revenue is Penford Products Co., the paper industry's major supplier of specially modified starches. Penford's plants are in Cedar Rapids, Iowa and Idaho Falls, Idaho.

The company competes in the pharmaceutical excipients market through a wholly-owned subsidiary, Mendell, which manufactures and distributes products in North America and Europe. Mendell has plants in the U.S. and Finland.

PENWEST FOODS Co. makes and markets specialty dextrose and dextrose-like products, along with food-grade potato-starch-based products and plant nutrition supplements. PENWEST FOODS manufactures its products in Cedar Rapids and Richland, Washington.

PENWEST's corporate headquarters are at 777 108th Avenue NE, Suite 2390, Bellevue, WA 98004-5193. Telephone (206) 462-6000.

**"On
the
cover"**

The illustration shows how PENWEST leverages its core competence — carbohydrate chemistry — into hundreds of products for consumers and industries. The basic chemistry is applied to four carbohydrate groups through six distinct technologies. Diverse products from these technologies are developed and sold through three stand-alone businesses organized along market lines, each a specialist in the three major industries served: papermaking, pharmaceuticals and foods.

▼ Five-Year Summary

▲ Letter to Shareholders

Earnings for the year were down, but PENWEST achieved major objectives.

■ Specialty Chemicals for Paper

Record demand for Penford products continues despite the third year of paper industry recession.

◆ Pharmaceutical Excipients

A new acquisition brings new technology and bottom-line results to PENWEST.

● Food Products

Exceptional growth and a broader technological reach were major achievements at this new stand-alone unit.

▼ Financial Review

PENWEST has four quantitative objectives for measuring its success. Here's the report card for 1992.

■ Board of Directors

● Officers and Management, Committees, Headquarters and General Information

Inside Back Cover



The fine printing papers in this annual report have been treated with specialty starch products developed and sold through PENWEST's Penford Products Co. These papers — which include 50 percent recycled fiber — exhibit a high-quality coating and overall strength through Penford specialty starches.

Five-Year Summary

(Thousands of dollars except per share data)

Year Ended August 31

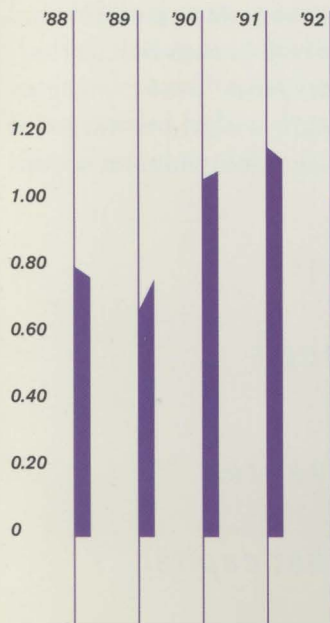
	1992 ^{2,3}	1991 ¹	1990	1989	1988
Operating Data:					
Net sales	\$ 125,952	\$ 110,910	\$ 91,998	\$ 79,826	\$ 65,819
Income from continuing operations	7,505	8,813	7,950	5,562	6,979
Earnings per share from continuing operations	\$ 1.01	\$ 1.17	\$ 1.06	\$ 0.68	\$ 0.81
Dividends declared	\$ 0.15				
Average shares outstanding	7,461,439	7,558,910	7,514,637	8,163,857	8,566,700
Effective tax rate	25.9%	29.6%	24.9%	29.6%	33.8%
Balance Sheet Data:					
Investments	\$ 18,173	\$ 28,815	\$ 30,993	\$ 38,146	\$
Long-term debt	30,877	31,550	23,050	23,650	49,456
Shareholders' equity	61,582	60,120	51,103	49,637	35,729
Capital expenditures	19,450	14,006	13,537	7,591	8,471
Current assets	44,117	51,110	47,671	52,957	35,884
Current liabilities	15,282	16,698	15,419	12,355	11,125
Working capital	28,835	34,412	32,252	40,602	24,759
Total assets	130,641	120,488	101,784	95,340	107,732
Total liabilities	69,059	60,368	50,681	45,703	72,003

¹ During fiscal year 1991, the company purchased the net assets of Mendell for \$8,000. Resulting operations for 6 months have been included in the consolidated financial data.

² During fiscal year 1992, the company adopted FASB Statement No. 106 "Employer's Accounting for Post-Retirement Benefits Other Than Pensions." This change increased the annual pre-tax post-retirement benefit expense by \$800 and decreased equity by \$5,900 (net of tax).

³ During fiscal year 1992, the company adopted FASB Statement No. 109 "Accounting for Income Taxes." This change resulted in a reduction of deferred taxes and an increase in equity of \$1,560.

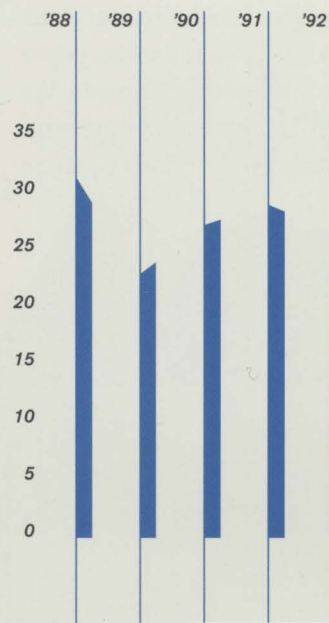
Earnings per share from continuing operations
Dollars



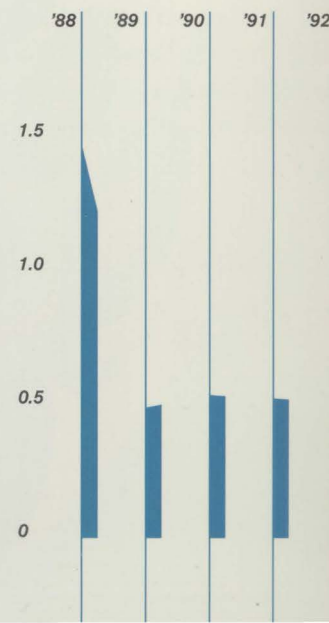
Book value per outstanding share
Dollars



Gross margin
Percentage



Interest-bearing debt to equity ratio



Letter to Shareholders

PENWEST had a strong operating year. Penford Products Co., our core business, had record sales despite a three-year-long recession in the paper industry. Mendell, a March 1991 acquisition, was successfully woven into the organization and for the fiscal year was a positive contributor to PENWEST's bottom line,

exceeding our internal projections. PENWEST FOODS celebrated, with record volume, its first full year as a separate operating unit.

All three business units logged important new product or service innovations that will contribute positively to PENWEST's long-term growth.

But we were not satisfied with our overall financial performance. Specifically, earnings for the year declined by 14 percent reflecting rescheduled product orders, a change in the product mix and an assortment of higher costs, including recognition of a new accounting standard covering post-retirement health benefits. We expect earnings to grow in the new fiscal year. It is clear, however, that we have two important tasks to address in order to achieve our standards for earnings growth. We must contain costs and improve the effectiveness of our marketing efforts. We took positive steps on both accounts prior to the close of the fiscal year.

We reduced operating expenses, as a percent of sales, in each quarter of the fiscal year and in the first quarter of fiscal 1993. We held comparable operating expense dollar growth to 3 percent during the year.

Also helping to contain costs and manage the business more efficiently, we centralized our management information systems into PENWEST Information Services (IS). This move makes available more comprehensive and timely information throughout the corporation. The new IS group will help eliminate redundancies and speed the decision-making process.

In our manufacturing units, we implemented a "gainsharing" program. The program offers financial incentives to employees who contribute positively to productivity and customer satisfaction.

On the marketing side, we realigned each division along market lines to better serve our major customer sectors: paper chemicals, food ingredients and pharmaceutical excipients. We have strengthened our divisional marketing efforts by appointing to each division a chief marketing officer. Each of these

officers is responsible for new products and the division's overall marketing strategy.

PENWEST's R & D resources have been more fully integrated among divisions and through the headquarters staff. Each R & D project must satisfy long-term strategic corporate requirements to receive funding.

We've also initiated third-party audits of major new product development projects. The audits include several technical and manufacturing reviews as well as an analysis of marketing strategies.

EARNINGS

While sales were at record levels for the year, higher manufacturing costs and an accounting change reduced earnings from last year's record level. Sales of \$125.9 million were up 13.5 percent from last year's \$110.9 million, while earnings before cumulative accounting changes were \$7.5 million, or \$1.01 per share, compared with \$8.8 million, or \$1.17 per share.

Net income was 42 cents per share for the year, reflecting a one-time cumulative charge of 59 cents per share for the adoption of two new accounting standards.

As we reported in the third quarter report to shareholders, the cumulative charge included approximately \$6 million relating to the adoption of Financial Accounting Standards Board (FASB) Statement 106, partly offset by a \$1.6 million credit from the adoption of FASB 109. FASB 106 relates to the future cost of post-retirement health benefits while FASB 109 changes the way companies account for tax liabilities. A more detailed discussion of these changes is included in Notes F and H on pages 26 and 28.

Of the 16 cents per-share decline in earnings before the cumulative accounting changes, 7 cents was the recurring impact of FASB 106 which requires the company to annually charge earnings for the estimated future costs of medical benefits for retirees.

PENWEST'S The other 9 cents reflected higher manufacturing costs, including net corn costs, and a slight change in the specialty starch product mix in the second half.

mission is to create While earnings for the year were less than satisfactory, key fundamentals remain strong: customer demand remains high in each business segment, gross profit margins remain within our targeted range, and return on operat-

the maximum continuing

rate of value growth through

long-term profit on invested

capital and the growth of that capital.

PENWEST's vision is to be the pre-eminent global marketer of carbohydrate ingredients through innovative technologies in attractive markets.

ing capital exceeded our corporate goal.

Earnings in the first half reflected capacity constraints in the core business. New capacity came on line in the third quarter, but three major orders that we had scheduled for that quarter were deferred by customers to the fourth quarter. While fourth-quarter sales returned to a good rate of growth, gross profit margins remained under some pressure from higher costs. As this report goes to press, we are operating at about 100 percent of our production capacity in the core business and there was an excellent balance between sales and production volumes.

Cost increases included higher depreciation expenses associated with a major capital expansion at Penford Products Co. The added depreciation charges were not offset by a corresponding increase in revenue until sales caught up with capacity in the fourth quarter.

Higher raw materials costs, particularly the costs of corn, had an impact on earnings. We report net corn costs after deducting the sale of corn byproducts. We hedge some corn costs through the futures and options markets but byproduct prices cannot be hedged.

We also experienced an increase in certain manufacturing expenses, in repairs and maintenance and effluent disposal. We've initiated programs to address each of these areas.

PENFORD PRODUCTS CO.

Penford Products Co., which accounts for the majority of PENWEST's total revenues, added 30 percent to production capacity during the fiscal year and by the fourth quarter was operating at close to capacity. Additional wet milling and drying capacity will come on line during the second half of fiscal 1993, boosting starch capacity by another 30 percent.

While the paper industry was soft throughout the year (further details are included in the Penford section of this report), demand for Penford's specialty chemical starch products remained high. Driven by continuing paper mill conversions from commodity starches to Penford's value-added

Penford Gum® starches, Penford volume was at a record level in the fourth quarter. All indications suggest that these specialty products will continue to grow, perhaps at double-digit rates, throughout the new fiscal year.

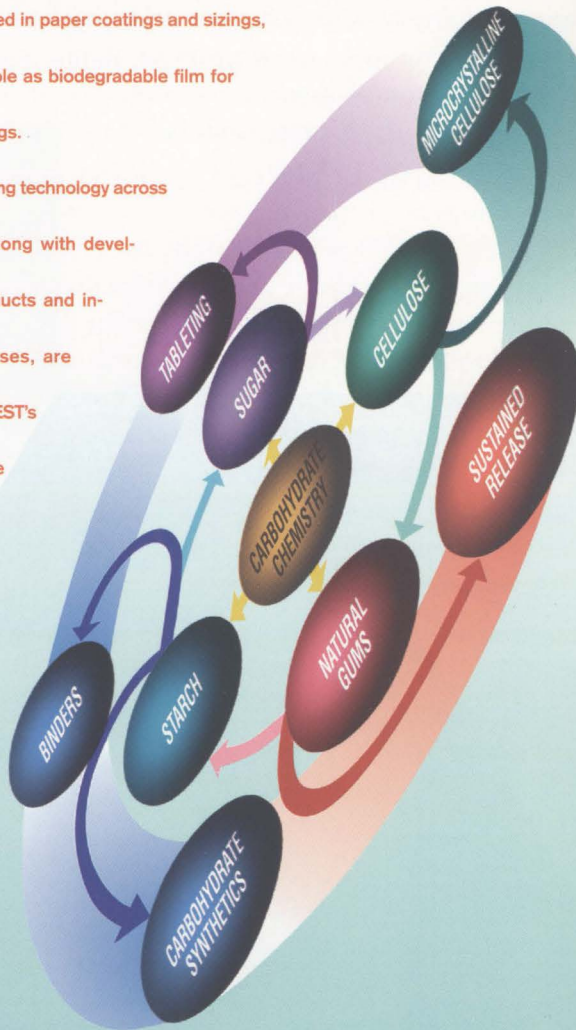
PENGLOSS®, a revolutionary breakthrough in carbohydrate technology, has not yet met our internal sales expectations. PENGLOSS is a carbohydrate synthetic that mimics the characteristics of starch combined with latex. Sales of this product have been modest, partly because PENGLOSS is technologically ahead of its time, and because of a severe paper industry recession. We have a new, broader marketing strategy in place for 1993.

Continued on page 4

PENWEST's basic technologies are interrelated and mutually reinforcing. The core competence — carbohydrate chemistry — is the unifying scientific discipline, forming the technical base for a broad range of products from specialty chemical starches for papermaking to dextrose-based processing aids for candy.

The exchange of technologies among the company's business units offers an opportunity for considerable commercial leverage: expertise in tableting which helped create a new controlled release system (TIMERx®) for medicine might also yield tableted chemicals for industrial use. Cellulose technology has the potential to develop products that replace fats in salad dressings and frozen desserts. Carbohydrate synthetic hybrids, now used in paper coatings and sizings, may be applicable as biodegradable film for industrial coatings.

Integrating technology across market lines, along with developing new products and industrial processes, are central to PENWEST's long-range vision for growth.



We continue to develop new and promising applications for PENGLOSS technology. It was introduced initially for the lightweight coated market, but by year-end we had expanded PENGLOSS-related products for the size press, for chemical carbonless papers and textiles. Two products for the coated board market are in the final stage of development.

We believe that the full commercial potential for the PENGLOSS family of products will not be realized until the paper industry recovers from the recession. Papermakers currently are hard-pressed to keep their production facilities operating at efficient levels. It is not an ideal environment for new concepts. Still, we continue to invest in PENGLOSS technology in anticipation of an industry economic turnaround, possibly during the new fiscal year.

M E N D E L L

While the paper market languishes, the pharmaceutical industry is growing steadily. Mendell, which makes and sells excipients — the non-active ingredients in prescription and over-the-counter capsules, tablets and vitamins — grew at a greater rate than the industry average, despite a year-long shortfall in available capacity for microcrystalline cellulose (MCC), marketed as Emcocel®, a major Mendell product line. A new MCC plant was completed in Cedar Rapids, Iowa in November 1992. We expect modest first-year revenue from this facility, but at full capacity it could generate \$20 million in incremental sales for Mendell. We would be very pleased to reach that level in three to five years.

TIMERx, Mendell's patented controlled release delivery system for prescription drugs, continues to show promise. A North American pharmaceutical company has completed a successful bio-

study, and we have negotiated two additional contracts for further study.

Mendell restructured its organization during the year, strengthening the marketing staff and bringing additional depth to research and development. The division also implemented a strategic planning capability to develop long-term opportunities for growth.

Mendell has been a successful acquisition. The division is ahead of plan in terms of revenue, cash flow and profitability, and is continuing to make a positive contribution to PENWEST's bottom line.

P E N W E S T F O O D S

PENWEST FOODS, a division created at the beginning of the 1992 fiscal year to manufacture and market specialty dextrose, potato starch and plant nutrition products, completed a very successful year. The unit recorded sharp across-the-board gains in volume for existing product lines and scored real progress in developing high-potential new products for long-term implementation.

By volume, specialty dextrose sales were up 30 percent for the year while specialty potato starches gained 14 percent. Plant nutrition products showed a 20 percent gain in volume and a sharp increase in market share.

PENWEST FOODS also grew qualitatively, especially in its capacity to be an innovative partner to customers.

Although the division is expanding from a relatively small base, it has identified considerable long-term growth potential by aligning PENWEST's technological and processing capabilities with basic changes in the food industry.

While the industry's growth rate, at less than 2 percent, is modest, rapidly shifting consumer demands create a constantly changing marketplace: each year some 10,000 new food products are in-

PENWEST's Mendell division is a major producer of microcrystalline cellulose (MCC), one of the world's leading excipient products. Marketed as Emcocel, Mendell's MCC is processed from pure cellulose to a fine powder with excellent compaction qualities.



Woody plant



High purity pulp



Acid hydrolysis



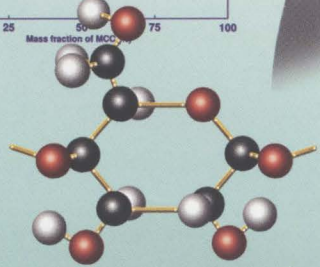
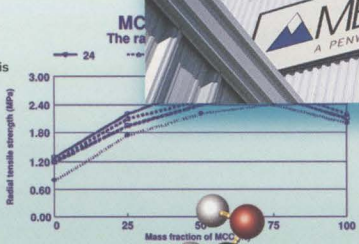
Neutralization



Wash and filter



Spray dry



troduced into the distribution system. This proclivity for change, especially with respect to Americans' growing commitment to healthy eating when it comes to fats and other calories, represents a significant opportunity for PENWEST FOODS.

So, while PENWEST FOODS will continue to aggressively market its traditional dextrose, potato starch and plant protein products, the division also will strengthen its capacity to be an innovative partner to food industry customers. As the year closed, PENWEST FOODS had some two dozen joint-effort projects underway with customers, ranging from a search for crisper French fried potatoes and vegetables to food ingredients that replace fat.

RESEARCH AND DEVELOPMENT

PENWEST's long-term growth depends on our ability to integrate research and development into the company's overall strategic plan. A key element of that integration is sustaining an environment in which technology crosses market lines, as detailed in the graphic illustration on page 3. By drawing upon the pool of our existing broad-based technical capabilities and at the same time stimulating our people to think creatively about innovations for all three business units, we hope to be an agent of change in the industries we serve.

We define R & D as a customer service, not a laboratory science. We encourage a corporate culture that stimulates and rewards innovation, but only to the extent that there is a recognizable benefit to our customers.

Creating an innovative culture is more easily said than done. We do believe, however, that we have taken some important first steps in that direction. PENWEST's chief innovation officer, Bob Widmaier, looks at R & D at the corporate and division levels from an overall management perspective. Development at one division is shared among other divisions through a corporate R & D planning committee which I chair. R & D is a full partner in the business success of each division and of PENWEST as a corporation.

New products and technologies will be the source of much of PENWEST's future growth. During 1992, the company and its divisions received eight patents and filed applications for 26 patents worldwide. These patent applications were for products as diverse as paper binders and controlled release medications.

CAPITAL EXPANSIONS

In April of 1993 the company will have completed a \$25 million expansion of Penford Products' main plant in Cedar Rapids, capping a four-stage, \$75

million investment program begun at Penford in 1989. With completion of the most recent project, the plant's drying, grinding and treating capacity will have more than doubled in the four years.

In addition, in November 1992 we completed the only plant in North America making MCC exclusively for the pharmaceutical industry. The project was completed on time and within budget after 10 months of construction.

In the last three years we also doubled capacity at the industrial potato starch plant in Idaho Falls, Idaho.

These capital projects make our company more competitive in the marketplace, increase our value to customers and strengthen the foundation on which we can build future profitability.

CASH DIVIDENDS

In February the board voted to pay a 5-cents-per-share quarterly cash dividend beginning with the second quarter, and has declared similar dividends in subsequent quarters.

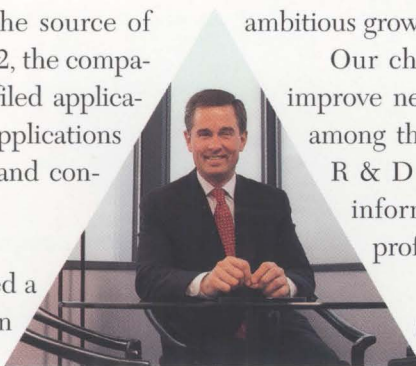
While the February action was the first cash dividend paid by PENWEST, the board historically has been responsive to shareholder interests, declaring a two-for-one stock split in June 1987, authorizing management to purchase PENWEST shares on the open market in October 1987 and again in April 1989 and September 1990, repurchasing 1.1 million shares from holders through a Dutch auction in 1989 and authorizing a 3-for-2 stock split in 1990.

REMAINING CHALLENGES

Each of our three business units completed a successful year. Each has a strong technical foundation, an expanding share of market and volume growth well above its industry's average. And each has added depth to its marketing and R & D resources. Penford Products remains the dominant force in its industry sector, Mendell has been profitably integrated into the PENWEST organization, and PENWEST FOODS has generated the kind of sales momentum necessary to meet some very ambitious growth goals on the food side.

Our challenge now is to manage that growth: to improve net returns, to accelerate technology transfer among the divisions, to nurture a customer-centered R & D portfolio and to develop new management information systems for bringing it all together profitably.

All the major elements for long-term growth are in place as we enter 1993. We look forward to a year of achievement. ▲



Tod R. Hamachek
Tod R. Hamachek
President and Chief Executive Officer

December 3, 1992

THE CORE BUSINESS

Penford Products Co., which accounts for most of PENWEST's revenues, had a good year in the face of a continuing severe recession in the paper industry.

Penford's principal customers are manufacturers of coated and uncoated freesheet papers, coated groundwood and coated board. The company sells to 70 companies and 160 mill locations throughout

North America and Asia.

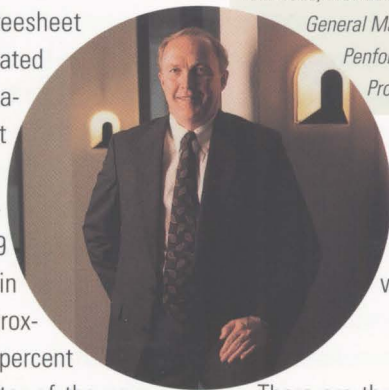
Constrained by capacity limits in the first quarter, Penford's volume for the full fiscal year was up 9 percent. New grind and drying capacity came on line in the second quarter and by year-end production of hydroxyethylated starch, the main product line, was at 100 percent of capacity. Demand for that product in the first quarter of the new year was up 15 percent from the fourth quarter of 1992. A further 30 percent expansion will come on line in April 1993, capping a four-year capital expansion program that effectively doubled capacity.

SLUGGISH PAPER SALES

While demand for Penford products was high for most of the year, the paper industry continued to suffer from economic recession. Coated paper demand showed some recovery, led by coated freesheet which gained 8.5 percent by the end of June. Coated groundwood shipments, however, were off 2.1 percent from the already depressed year-ago levels.

Magazine publishers and printers were keeping inventories at a relatively low level even though advertising pages showed modest gains.

Most industry analysts expect a recovery in coated paper demand from the end of 1992 through 1994, but it mostly likely will be mod-



Tom Reed, President and
General Manager,
Penford
Products Co.

est compared to past recoveries. Some estimates place demand up 9 percent in 1993 and 7 percent in 1994 compared with a recovery of 15 percent after the 1982 recession. Coated paper operating rates remained low at only 87 percent in 1992 but are expected to rise to 92 percent in 1993 and 95 percent in 1994.

Demand for uncoated freesheet also was modest through June 1992, with shipments up only about 3.5 percent. Operating rates of about 88 percent during the year also are expected to rise through the next two years.

Although Penford has been somewhat insulated from the ups and downs in the paper industry in recent years, a recovery in operating rates at paper mills would very definitely be good news.

THREE SOURCES OF GROWTH

There are three basic drivers to the increasing demand for Penford's modified starches:

1. Higher operating rates at paper plants.
2. Conversion of paper mills from acid- to alkaline-based papers.
3. Conversion from commodity-type starches to higher performance modified starches.

Higher paper industry operating rates will have a direct and significant impact on Penford volume. As an example, if the uncoated freesheet segment of the industry were to move from 89 percent of capacity to 90 percent — a reasonable expectation for 1993 — it would create additional demand for 10 million pounds of Penford's hydroxyethylated starch. Because Penford has the leading share of that market, the net effect could be substantial. In fact, if the three major industry segments served by Penford — uncoated freesheet, coated freesheet

Penford Products manufactures and sells more than 70 starch-based specialty products to papermakers throughout North America. And while there are many variations of the basic starch products, all of them find their way to one of three processing lines in the paper mill:

The Size Press treats the paper with chemically modified starches that seal or coat the surface and add some water resistance to the sheet. These starches are used primarily in uncoated freesheet papers like those used for writing or in computer printouts. Size press applications are Penford's largest single market, accounting for about 55 percent of the division's total sales.

Coating Binders comprise about 30 percent of sales.

These special chemicals hold pigments on the surface of coated paper to improve the printability and appearance of coated grades. Chemically modified starches, including PENGLOSS, offer a wide range of binder combinations for papermakers.

The Wet End of papermaking — the paper forming area — uses cationic corn and potato starches to add strength and help hold both fiber and filler in the sheet.

About 15 percent of Penford's sales are for wet-end applications.

and coated groundwood — were each to gain only one percentage point of available capacity, it could translate into 13 million pounds of additional hydroxyethylated Penford volume.

Conversion from acid- to alkaline-based papermaking increases the demands on starch performance. The alkaline process improves the quality of the sheet, reduces costs by replacing wood fiber and produces fewer effluents, reducing the waste stream from mills. In that process, expensive chemical sizing agents are used. Penford cationic starches, both corn- and potato-based, play a role in efficient sizing. Some of the fiber is replaced by mineral fillers such as calcium carbonate, requiring starch to maintain sheet strength. Penford's hydroxyethylated and cationic starches both contribute to sheet strength and good printing performance. Almost all U.S.-produced coated freesheet papers are alkaline based, while approximately two-thirds of uncoated freesheet papers have converted. Within five years, essentially all domestic uncoated freesheet will be alkaline based.

Another conversion factor that benefits Penford is the transition at many mills from commodity "pearl" starches to modified hydroxyethylated starches. These conversions reflect the paper industry's continuing efforts to be competitive in the quality and consistency of its finished products and to improve runability on world-class papermaking equipment.

The conversion potential remains very large. In 1992 the paper industry consumed about 2.9 billion pounds of starch. Commodity starches, also called pearl starch or native starch, comprised 1.2 billion pounds or 41 percent of the total. Pearl starch is an unmodified product which anyone can make. It is sold strictly on price. A significant portion of the commodity-priced market can be converted to Penford's specially modified products. Those conversions, rather than the growth

of the paper industry itself, have been the principal source of Penford's growth.

Modified starches comprise 45 percent of the total starch market. They include acid modified and oxidized starches at the low end, and cationic and hydroxyethylated at the upper end. Penford is North America's leading producer of hydroxyethylated starches, with more than twice the market share of its nearest competitor.

PENFORD PRODUCTS ADD VALUE

One of the keys to the acceptance of Penford's specialty products in recent years has been the division's emphasis on the value-added characteristics of technical service as well as products. Penford technology and process expertise help papermakers make end products with measurable differences. Increasingly, this value is not only to customers (papermakers) but to their customers (printers) as well.

Hydroxyethylated starches create a stronger, clearer, more stable film with less starch than commodity products. In some cases, where a papermaker has limited drying capacity,

Continued on

Page 8

Carbohydrate chemistry applied to specialty products for papermakers is the centerpiece of Penford Products Co. growth. In the 1990s, that core competence will be leveraged into other specialty carbohydrate products for foods and pharmaceuticals developed jointly through Penford's sister divisions.



ISO 9002

the choice of an ethylated starch effectively translates into higher line speeds. The added premium for these specialty products is a relatively minor factor in overall paper costs. By volume, starch is about 2.5 percent of the coated sheet and only about 2 percent of the selling price. Upgraded starch products, therefore, can be highly cost effective.

PENGLOSS

Penford continued development of PENGLOSS technology during the year. PENGLOSS is a carbohydrate synthetic hybrid that blends the characteristics of starch and latex. PENGLOSS was developed initially for the lightweight coated market. Extensions of that technology during 1992 have resulted in products for paper and textile sizing, chemical carbonless paper and coated board. Although it is a significant breakthrough in carbohydrate technology, PENGLOSS sales have been less than the company had hoped. As a technology, it is ahead of its time — and a recession-plagued paper industry has been reluctant to adopt new methods. At the same time, however, the company recognized a need for additional product development and some revision to the marketing strategy. By year end, a PENGLOSS sizing product had been

successfully launched in the marketplace and has scored some repeat sales. Long term, PENGLOSS technology is expected to play a significant role in Penford's growth.

NEW OFFSHORE MARKETS

Penford expanded its marketing reach to Asia during the year, securing new, repeat business in both Japan and Korea. In Europe, selected Penford products completed mill trials with encouraging results.

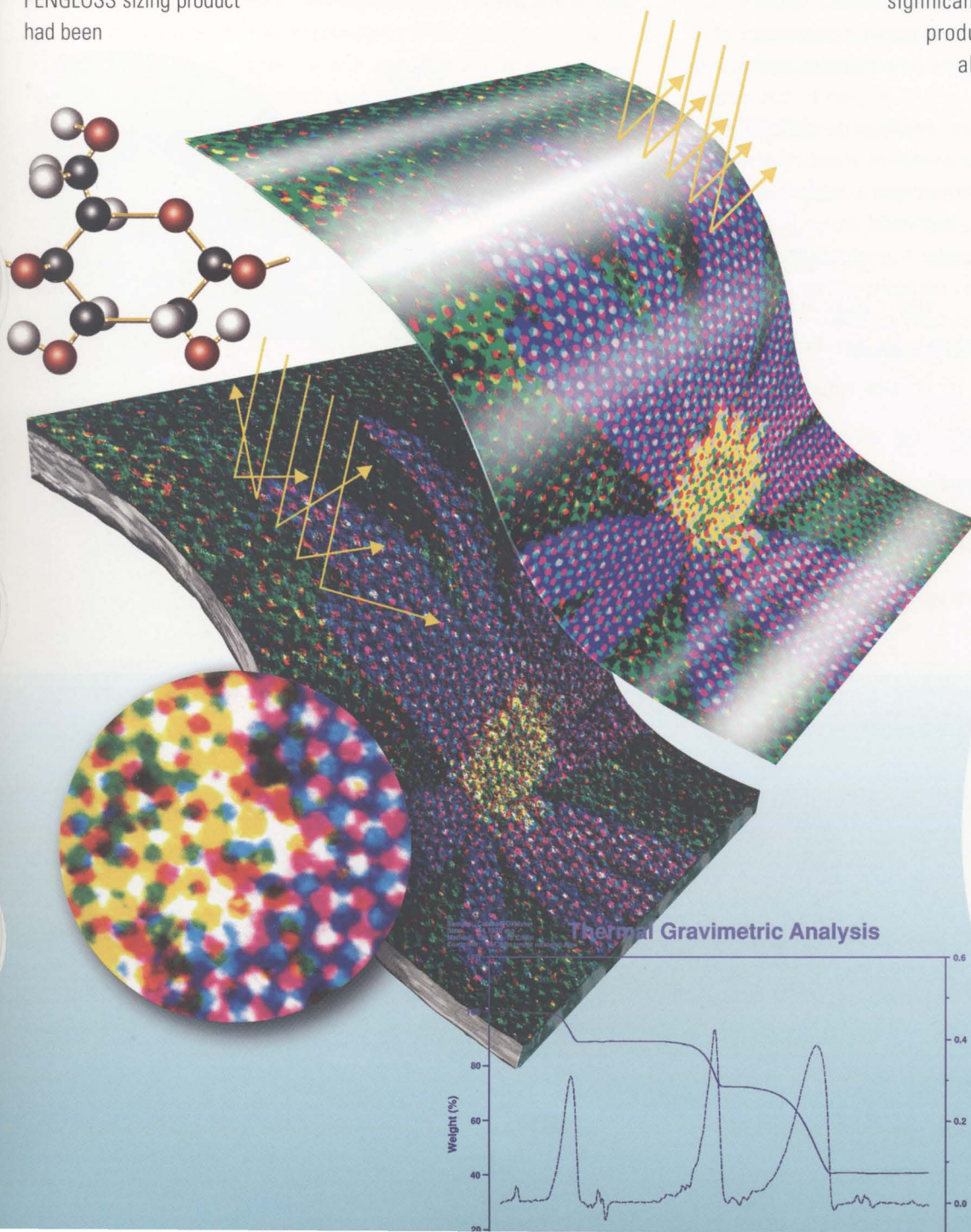
RESEARCH AND DEVELOPMENT

Penford continued an active research and development program during the year, with "innovation teams" assigned to commercializing emerging opportunities. Separate teams undertook the development of PENGLOSS products for paper sizing and textile sizing, while others developed process improvements at the plant and examined new product opportunities in the "wet-end" of papermaking. Penford scientists are studying ways of modifying raw materials through genetic engineering, and also are seeking improvements to the hydroxyethylated starch line.

IMPROVED MANUFACTURING

On the manufacturing side, the division scored a significant gain in efficiency, shortening the production cycle of a major product by almost a third. Other manufacturing

Penford pioneered carbohydrate synthetics — carbohydrate-based specialty products that can replace latex. Marketed as PENGLOSS, the synthetic brings surface gloss, smoothness, opacity and printability to fine-grade papers. Developed originally for lightweight coated papers, PENGLOSS derivatives are also used in paper and textile sizing and as binders in specialty paper applications.



efficiencies included a major reduction in effluent at the Cedar Rapids plant, late in the year, and an upgraded packaging capability at the Idaho Falls cationics facility.

QUALITY INITIATIVES

In the second quarter, Penford launched a new quality program aimed at strengthening its quality lead. By the spring of 1993, Penford expects to be the first U.S. starch company certified under ISO 9002. Under this program, which is well known in Europe, Penford will be certified by an objective third party as meeting certain quality standards. ISO 9002 certification is a prerequisite to doing business in Europe.

The division's high standards were recognized by two major customers during the year, as the Ecusta Division of the P.H. Glatfelter Co. and the Eastman Kodak Co. both cited Penford for quality and consistency. Penford, in turn, presented its VIP quality award to three suppliers: BASF, Cargill and Dow Chemical.

CUSTOMER SATISFACTION

To monitor its own performance on a continuing basis, Penford conducts a quarterly Customer Satisfaction Survey in which customers are asked to rank a variety of products and services. These surveys have consistently revealed Penford to be the leader in the starch industry.

Penford places customers at the center of its focus. Its sales representatives have many years of experience in the industry. They are backed by customer technical service personnel and a research and development department geared to solving problems.

Two recent examples illustrate how Penford is able to work with customers to solve problems.

A paper mill in the Midwest had a problem with starch "dusting" in the plant. Penford customer technical service personnel developed a modification to the product that eliminated the problem, enabling the customer to avoid a capital investment, reducing a nuisance and contributing to a safer workplace.

An older newsprint mill in the South had a "two-sidedness problem," where the top and bottom sides of the sheet were inconsistent. The mill faced the prospect of not being competitive with more modern newsprint producers. To solve the problem, Penford developed a system

Products Directory

Penford Gums 200, 220, 230, 240, 250, 260, 270, 280, 290, 295, 300, 330, 360, 380; <i>Pencote, Pensprae 3800, Pensurf</i>
PENGLOSS (Paper coating) 110, 115, 150
Apollo 500, 600, 600-A, 700
Apollo 4250, 4260, 4280
Astro Gums 3010, 3020
Astrocote 75
Polaris Gums HV, MV, LV
Astro X 100, 101, 200
Astro Gum 21
Douglas-Cooker 3006, 3012-B, 3018, 3040
Clearsol Gums 7, 10
Crown Thin Boiling X-10, X-18, XH, XP, XR
PENGLOSS (Size press)
Penflex™

Coating
Size Press
Wet End
Calender Stack
Textile Sizing
Product Features

Hydroxyethyl ether derivatized corn starches – clear, strong, flexible, water-holding films – uniform viscosity – high gloss and ink holdout

Starch/latex copolymer binder – ready-to-use at coater

Cationic corn starches – increases retention and strength – alkaline size emulsion stabilizer

Cationic corn starch – superior surface sizing – increases strength – reduces effluent from scrap paper

Carboxymethylated corn starches – specialty starches for use with PVA

Highly modified specialty potato starch – high solids, low viscosity for specialty papers

Hydroxyethyl ether derivatized potato starches – very clear, strong, flexible water-holding films – uniform viscosity – excellent gloss and ink holdout

Cationic potato starches – increases strength and retention – alkaline size emulsion stabilizer

Anionic corn starch – increases strength – high alum systems

High shear cooker corn starches – lightly oxidized – strong films, stable viscosity

High oxidized corn starches – clear, strong, flexible films – stable viscosity

Acid modified corn starches – improve surface size and bonding

Starch/latex copolymer binder – ready to use at size press

Starch/latex copolymer sizing agent – ready to use at slasher

for applying starch on the Fourdrinier — the paper-forming section of the line — becoming the only starch manufacturer to offer the product, and presenting new business opportunities at other newsprint mills.

Penford is committed to being the leader in its sector of the starch market. Recovery of the paper industry, conversion from unmodified to specialty starches and new products will continue to fuel its growth.

Pharmaceutical Excipients

Mendell is the leading North American excipient company devoted exclusively to the pharmaceutical industry. The company supplies pharmaceutical customers throughout the world, and has manufacturing facilities in North America and Europe.

Excipients are the non-active components of both prescription and over-the-counter medicines formulated as tablets and capsules. Originally just fillers, excipients have evolved to provide a wider range of functional characteristics as exemplified by the Mendell range of products. In the future these products are expected to play an even more important role in pharmaceutical manufacturing of drug delivery systems.

A GOOD YEAR FOR MENDELL

Mendell, which was acquired by PENWEST in 1991, had a good year in 1992, although its growth was limited by capacity constraints. Dollar sales and volume were at record levels, and the division put into place a number of changes designed to strengthen its market position and its ability to create innovative new products. Mendell's customer base grew during the year.

INDUSTRY GROWTH

The leading pharmaceutical companies will show revenue growth of between 7 and 9 percent for 1992. Mendell's historic growth rate has been well in excess of that rate, despite

capacity constraints in the last two years. The company is expected to continue to exceed industry growth rate averages for the foreseeable future.

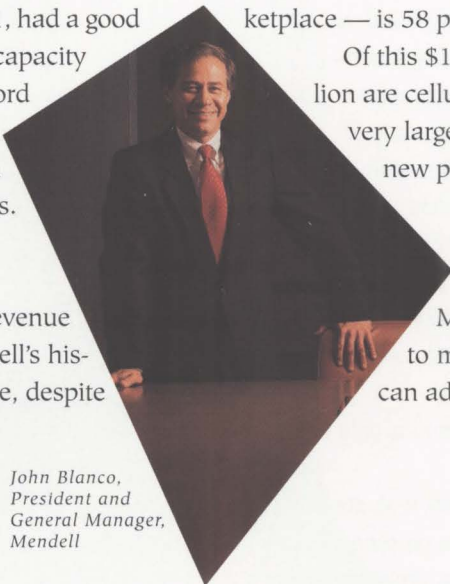
NEW MCC PLANT

New capacity for microcrystalline cellulose (MCC), which previously had been sourced exclusively from the company's plant in Nastola, Finland, came on line in Cedar Rapids during the second quarter of fiscal 1993. MCC, marketed in North America and Europe as Emcocel, is Mendell's leading product line. The new plant will contribute to revenue modestly at first, but is expected to become a major source of Mendell growth in three to five years. In addition to serving existing customers in North America and Europe, the plant is expected to open new markets in the Middle East, South America and Asia.

To appreciate the importance of this product, it may be helpful to envision the worldwide excipients market as a \$275 million pie, where the value-added segment — Mendell's marketplace — is 58 percent of the whole.

Of this \$160 million value-added segment, \$72 million are cellulose, mostly MCC. Clearly the market is very large and Mendell is well positioned with this new production facility to gain a greater share.

Now, with MCC plants in both Europe and North America, the world's largest drug producing and consuming markets, Mendell will have much greater flexibility to market Emcocel. At full capacity, the plant can add \$20 million to annual revenues.



John Blanco,
President and
General Manager,
Mendell

Mendell "firsts": *Mendell has an excellent record of innovation. Half of the company's 11 brands were industry "firsts": ("direct compression" is the most economical process of making tablets, since compressible excipient materials do not require blending, mixing and drying before they are combined with the active ingredient.)*

Emcompress®: *The first directly compressible dicalcium phosphate*

Explotab®: *The first "super" disintegrant — the first to overcome problems associated with the original starch-based disintegrants*

Compactrol®: *The first directly compressible calcium sulfate*

Emdex®: *The first directly compressible dextrate*

Lubritab®: *The first direct compression lubricant*

TIMERx®: *A new controlled release technology, TIMERx is the first such technology applicable to direct compression, as well as to other tablet production methods*

WORLDWIDE SERVICE

Also during the year, Mendell acquired its distributor's business in Germany, bringing the company closer to its customers in this major European growth market. Mendell continues to work through exclusive distributors in other European markets. In addition to 27 distributors worldwide, Mendell serves customers through: headquarters and laboratories in Patterson, New York; an MCC plant and laboratory in Nastola, Finland; the MCC plant and QC laboratory in Cedar Rapids, Iowa; a sales, marketing and technical services office in the United Kingdom and the new sales office in Germany. The lab in Nastola was expanded during the year, increasing service in Europe.

Over the last 12 months, Mendell has taken steps to broaden its marketing organization by establishing stronger marketing positions in Europe and, of course, North America. In addition, technical services and research capabilities have been

augmented by increasing R & D staffing as well as by adding new, state-of-the-art equipment to expand Technical Services and Quality Assurance capabilities.

BUILDING PARTNERSHIPS

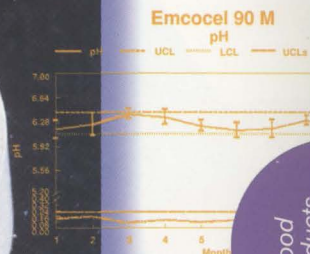
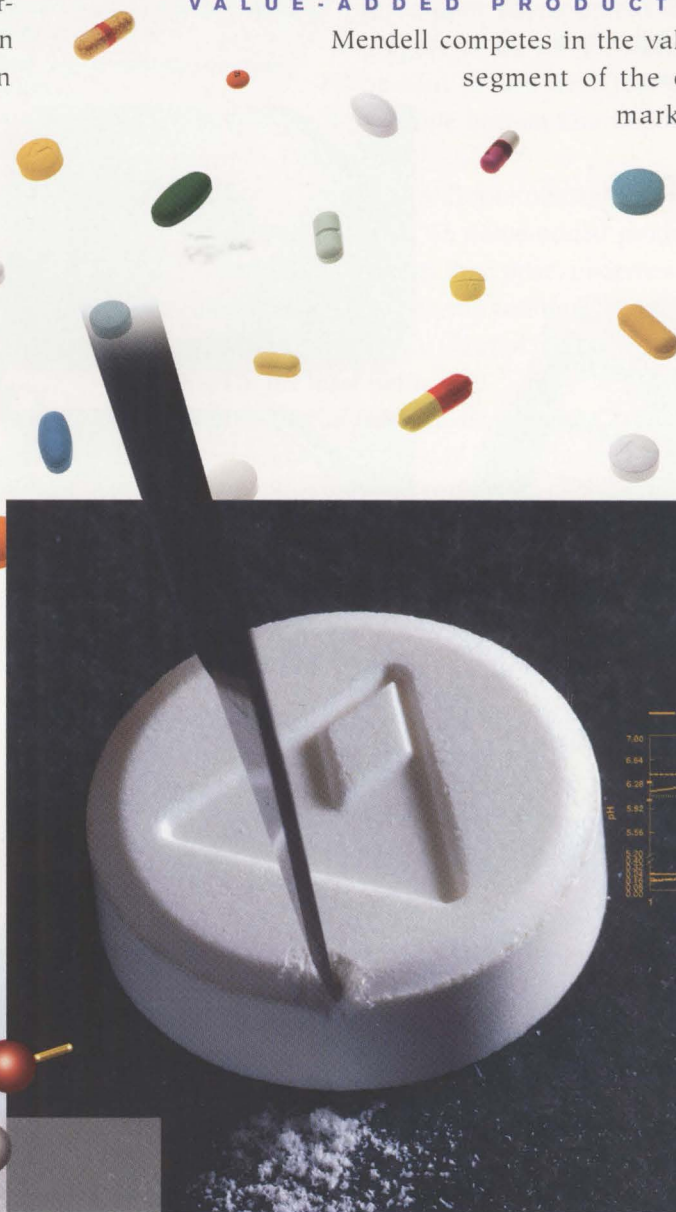
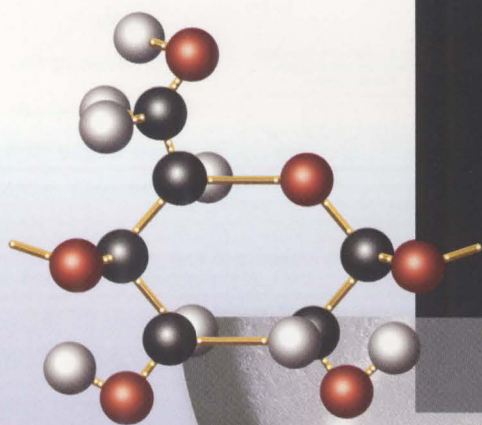
A large customer, SmithKline Beecham Pharmaceuticals Co., recognized Mendell's Vendor Certification Program during the year by certifying a major product. Vendor certification requires verification of historic compliance to customers' standards through review of production records that verify quality performance levels. This process, which has a high priority at Mendell, builds strong levels of trust and cooperation between the company and its customers. Mendell hopes to have most of its product lines vendor certified within two years.

VALUE-ADDED PRODUCTS

Mendell competes in the value-added segment of the excipient market. That

Cont. on page 12

Mendell is a specialist in tableting — a technology in which the excipient material performs with the active ingredient in precise, predictable ways, releasing the proper dosage in the human digestive system. The photo illustrates that a microcrystalline cellulose excipient from Mendell exhibits excellent hardness and compaction, yet disintegrates readily and uniformly in the right circumstances. Mendell scientists focus on "performance" excipients — materials which deliver precisely predictable results.



Pharmaceutical
Excipients

Food
Products

Financial

segment is comprised of products which provide a specific function, are consistent from lot to lot, meet stringent industry quality standards and meet or exceed customers' specific performance or quality requirements.

These performance characteristics are key to Mendell's business. Because excipients can affect the way a drug is released in the body, the company's guarantee of quality and consistency is something Mendell customers have learned to depend on. They know that Mendell products will work the same way every time. In addition, Mendell's products are suited for any production process used to make solid dosage forms. They are fully compatible with production facilities of all pharmaceutical companies.

Mendell, which in a few years

will celebrate its 50th anniversary as a supplier to pharmaceutical manufacturers, has a strong and growing reputation for innovation. Half of its product offerings (detailed on page 10) were important "firsts" in the industry. This history of firsts makes Mendell the one stop for new or improved performance excipients. Mendell's exclusive focus on the pharmaceutical industry, supported by field service people and laboratories in North America and Europe, makes this unit a valued partner to the world pharmaceutical industry.

CONTROLLED RELEASE: TIMERx

Mendell's innovations include a new, patented controlled release technology, TIMERx for solid dosage forms. It provides drug manufacturers a means of developing

Mendell's TIMERx is a new controlled release technology that can

produce a once-a-day dosage form for tableted medicines. The

technology is based on a unique release mechanism

using natural gums. It is one of several industry

"firsts" that mark Mendell as a leading innovator

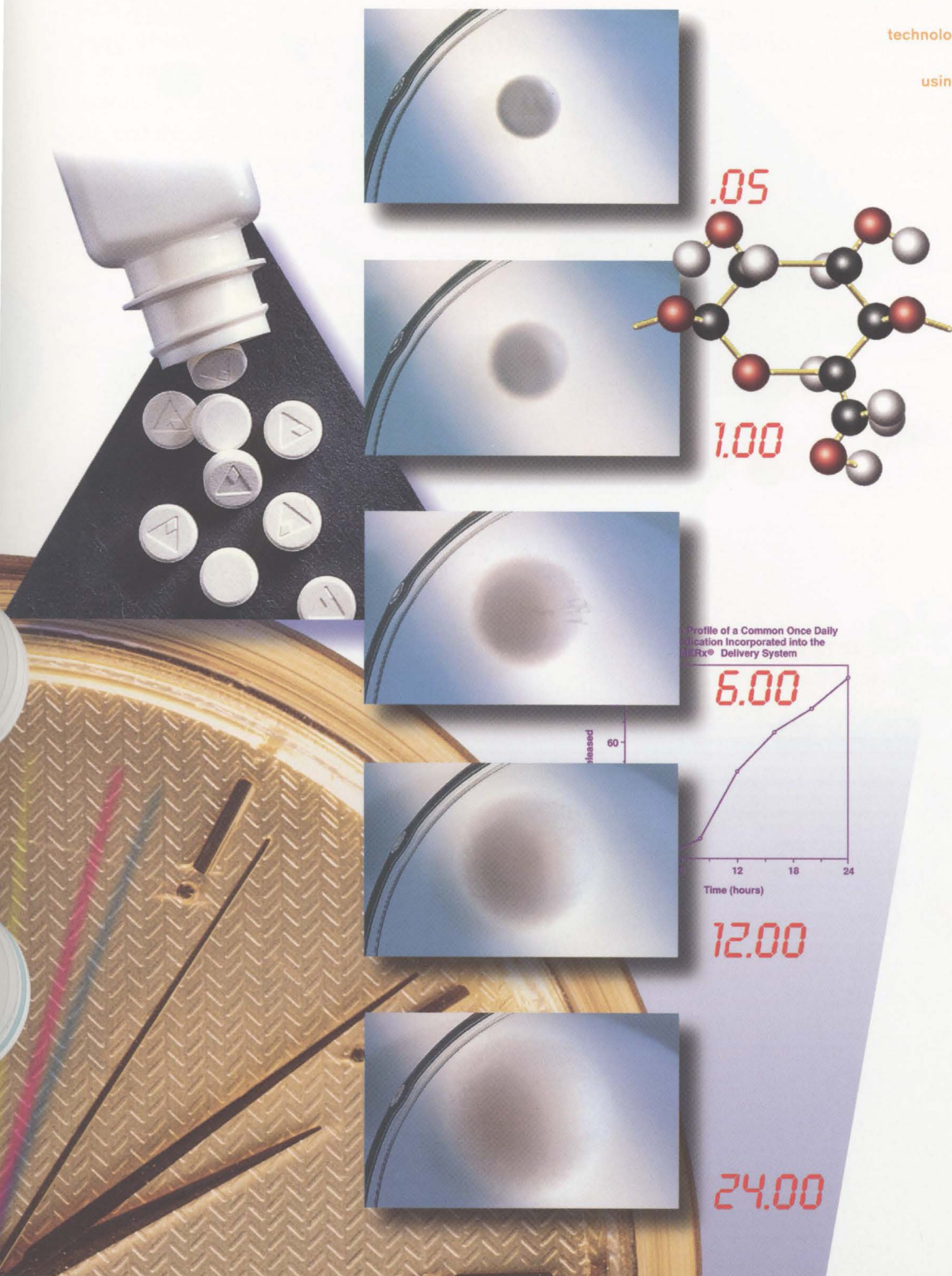
in the technology of pharmaceutical inert

materials. Controlled release products

are efficient delivery systems for active

ingredients and can offer pharmaceutical

manufacturers renewed patent protection.



once-a-day products and, importantly, an opportunity for manufacturers to extend patent protection for drug products by introducing these materials in new therapeutic delivery systems.

The technology is based on a hydrophilic matrix system which allows for a slowly eroding core. In addition to its patent protection, the technology offers advantages over other systems in its ease of use. It adds value to customers because dosage forms can be made on manufacturers' existing equipment.

Controlled release products also lead to better patient compliance and more cost effective health care generally. Single-dose versions of drugs can be more efficient because they provide the correctly metered dose over a specific period of time with reduced side effects.

Products Directory

Emcocel	Microcrystalline Cellulose, NF/BP/JP/EP
Emcompress	Dibasic Calcium Phosphate, USP/BP
Compactrol	Calcium Sulfate, NF
Emdex	Dextrates, NF
Emvelop	Hydrogenated Vegetable Oil, NF
Non Pareils	Sugar Spheres, USP
Explotab	Sodium Starch Glycolate, NF/BP/EP
Satialgine	Alginic Acid, NF
Emcosoy	Soy Polysaccharides
Lubritab	Hydrogenated Vegetable Oil, NF
Pruv	Sodium Stearyl Fumarate, NF

Binders/Vehicles Disintegrants Lubricants Product Features

High binding capability, facilitates production of hard, elegant tablets that can disintegrate rapidly
A tablet binder that provides excellent flow characteristics

Economical and efficiently flowing vehicle for direct compression tableting

Outstanding fluidity and compressibility with a cool soft mouthfeel which is desirable for chewable tablets

Simple wax matrix for controlled release tablets which are produced by direct compression

Uniform inert sugar/starch beads that provide a homogenous surface for coating

Proven super disintegrant which can be used in tablets made from direct compression or wet granulation

One of the original naturally occurring disintegrants

Soy fiber disintegrant used in products with non-starch claims

Natural lubricant that acts without the drawbacks of stearate lubricants

Unique lubricant, hydrophilic nature combined with high lubricity and anti-adherent properties

Mendell offers formulation development services along with the TIMERx technology. A new development group was formed to work with the pharmaceutical industry in developing controlled release dosage forms tailored to individual company requirements.

The company currently has three joint development and licensing agreements for TIMERx which, if successful in the next few years, will have positive bottom-line implications for PENWEST.

Mendell will continue to focus its development resources on value-added products where performance, rather than price, underlies the buying decision. The division will continue to build on its reputation for innovation. Current product details are contained in the inset (left).

In addition to its product development and formulation assistance programs, Mendell will expand its customer service. The company's number one priority is to exceed customers' expectations for quality, consistency and innovation.

What are excipients?

Mendell makes and sells excipients, the non-active parts of tablets and capsules. Mendell's products include:

Binders help give form to tablets and, by weight, are 20 percent to 70 percent of the tablet or capsule, depending on the active material.

Disintegrants, generally 2 percent to 4 percent of the weight, help tablets release drugs in the digestive system.

Fillers, inert materials, can comprise up to 50 percent of a tablet's weight.

Lubricants, with use levels of .5 percent to 2 percent, lubricate tablet dies, preventing tablet sticking in the manufacturing process.

Raw materials of excipients include sucrose (table sugar), dextrose (corn sugar), specialty carbohydrates (plain and modified starches) and cellulose.

The basic technology of this business is carbohydrate chemistry, which is also the technological base for PENWEST's other businesses.



The worldwide excipient market Mendell tracks is \$275 million. Mendell competes in the value-added segment of that market, estimated at \$160 million. Almost half of this market is comprised of cellulose, a major focus of Mendell's investments for the 1990s.

MENDELL

Food Products

PENWEST FOODS Co. (PFC) logged exceptional growth for the year both in volume and in its capacity to serve customers as a partner.

DEXTROSE PRODUCTS UP SHARPLY

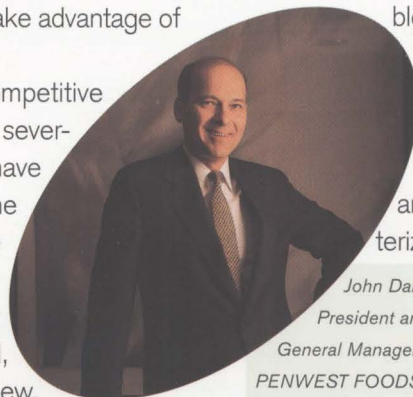
The corn sugar lines — especially CarriDex® and Cantab® — gained 30 percent in volume on the strength of strong basic demand and the addition of major new customers. Second-half volume was up more than 60 percent. The confectionery industry increasingly recognizes Cantab as the product of choice for a wide variety of compacted candies. Both domestic and overseas customers broadened their use of this unique product, frequently developing new products just to take advantage of the efficiencies Cantab offers.

As aspartame comes off patent, the competitive high-intensity sweetener industry has attracted several new producers. A number of those, in turn, have come to PENWEST FOODS for CarriDex, the premier bulking and fast-flow agent for these applications.

PENWEST FOODS' dextrose production lines were working on three shifts at year's end, and the addition of a fourth shift was under review.

POTATO STARCH PRODUCTS GAIN

The food potato starch lines also were up significantly. They include 12 products marketed under the PenPlus® brand name. In addition to volume gains of 18 percent, PENWEST FOODS' potato starch business grew through several joint development projects with Fortune 50 food producers. These projects, drawing on PENWEST's expertise in carbohydrate chemistry, range from a coating agent that makes French fries crisper to a biodegradable loose fill material for packaging.



John Darcy,
President and
General Manager,
PENWEST FOODS Co.

FAST GROWTH FOR FAST BREAK

Sales of PFC's plant nutrition products also increased. Fast Break® and Fast Break Plus®, protein-based timed-release nutrients for commercially grown mushrooms, were up 20 percent for the year and 63 percent in the second half. These brands' share of market also gained sharply, driven by measurable results reported by mushroom growers. The company expects these products to continue volume and share gains in fiscal 1993, with new, offshore markets coming on stream by mid-year.

SPEED AND INNOVATION

The rapid continuing growth of PENWEST FOODS — although from a relatively modest base — rests on three basic building blocks:

The first is applications and commercialization speed. That means developing innovative applications in the division's own field of focus — and doing it quickly. The food industry is characterized by rapid and frequent product change. The industry rewards suppliers who can provide the chemistry and processing and applications expertise large food companies need. PENWEST FOODS is quickly building a reputation for service and new ideas among some high-potential food-producing customers.

The second building block in the division's growth consists of products that are unique to the company. PENWEST FOODS is structured to be a major player in niche markets that draw on proprietary expertise. The division concentrates on developing and commercializing products which cannot be easily replicated by competitors and which solve specific process or product problems identified by customers.



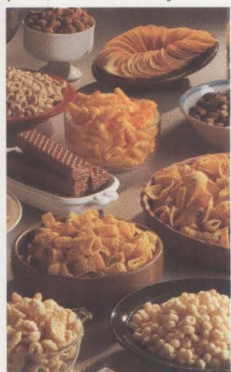
**PENWEST
FOODS makes
and markets
products in three
categories:**

*Corn-based
specialty dextrose
products
for flowability and
tablet compaction.
Consumers will
find these prod-
ucts in low-calorie
sweeteners, soft
candies, cured
meat, powdered
drink mixes, diet
meals, coatings
and a variety of
other products.*

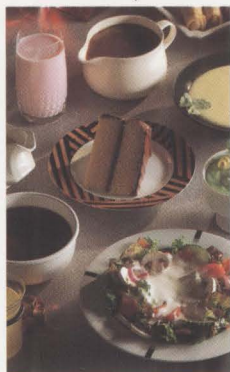
*Food-grade
modified potato
starches
for better-tasting,
smoother gravies
and sauces, less
brittle tortillas,
crunchier French
fries and many
specialty applica-
tions where only
potato starches
will achieve the
desired effect.*

*Agricultural
nutrition products
— timed-release
proteins that
accelerate the
growth cycle of
commercially
grown mush-
rooms.*

Cantab and CarriDex on the dextrose side are good examples. PenPlus products, based on uniquely modified potato starches, are other examples. Each of these products competes with large, entrenched competitors relying on price and long-standing supplier/customer relationships. PENWEST FOODS has gained market share by converting these customers to PFC products — by demonstrating to customers that the premium



price of the company's products is more than recouped on the production floor through processing efficiencies, yield improvements and overall consumer satisfaction.



The third element of growth is expansion of the division's core technologies. PENWEST FOODS has a very strong capability in carbohydrates

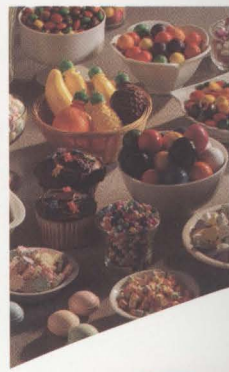
Specialty dextrose products developed and marketed by PENWEST FOODS have become standards in the confectionery industry. Cantab, which has superior compaction qualities, is the best product in the industry for many tableted candies. CarriDex, which has outstanding flow characteristics on the production line, is in high demand for fruit dusting and sachet applications. PENWEST's broad expertise in carbohydrate chemistry enables these and other products to be processed with distinguishing characteristics that set them apart from commodity look-alikes. The focus on proprietary technology and unique product function guides PENWEST FOODS' research and development program.

In addition to the core business, PENWEST FOODS has an aggressive new product development capability covering a range of opportunities — from fat replacers to new concepts in snacks to biodegradable packaging materials.

and carbohydrate processing and engineering. Now the division is developing core expertise, for example, in extrusion technology which will be a strong growth area in the food industry for the next decade.

These basic building blocks of growth are consistent with major changes now underway in the food industry. That industry, like others, is reducing its number of vendors. Vendor reductions place an additional premium on those who can bring special value to their products and, in turn, to customers.

Consumer products have shorter life cycles today than in the past. Consumers are looking for greater choices. That places greater value on the ability of suppliers to innovate and respond quickly to shifts in the market — characteristics more typical of a partnership than a traditional vendor/buyer relationship. Innovation and response speed are among PFC's core strengths.



Continued on

page 16



Food companies are under growing pressure to be more efficient. Marketing budgets have escalated and margins are thin. PFC's expertise can be a cost-effective alternative resource in such an environment.

CHANGES IN THE MARKETPLACE

The division's customers increasingly see themselves primarily as marketers — for it is marketing muscle that provides the greatest leverage in a highly competitive national retail environment. That, in turn, has reduced emphasis on internal R & D and offers an



opportunity for PFC. As the centerpiece of the division's growth strategy, R & D at PENWEST FOODS will receive increasing emphasis in the future.

The result of these changes within the food industry is that PFC customers are increasingly looking to their suppliers for integrated solutions to development challenges.

"Integrated solutions" means selling the entire technical package on a new product and being a co-development partner. It is much more than just a technical service. Customers seek ideas, formulations and processing help. They often need the unique ingredients which can differentiate their products. PENWEST FOODS is increasingly providing that expertise.

A PARTNER IN INNOVATION

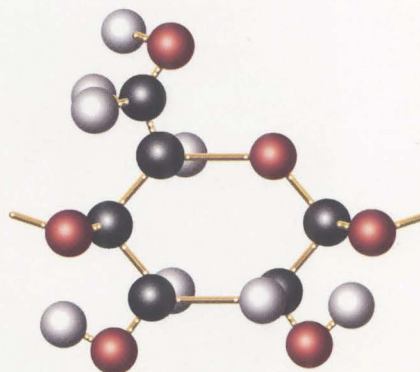
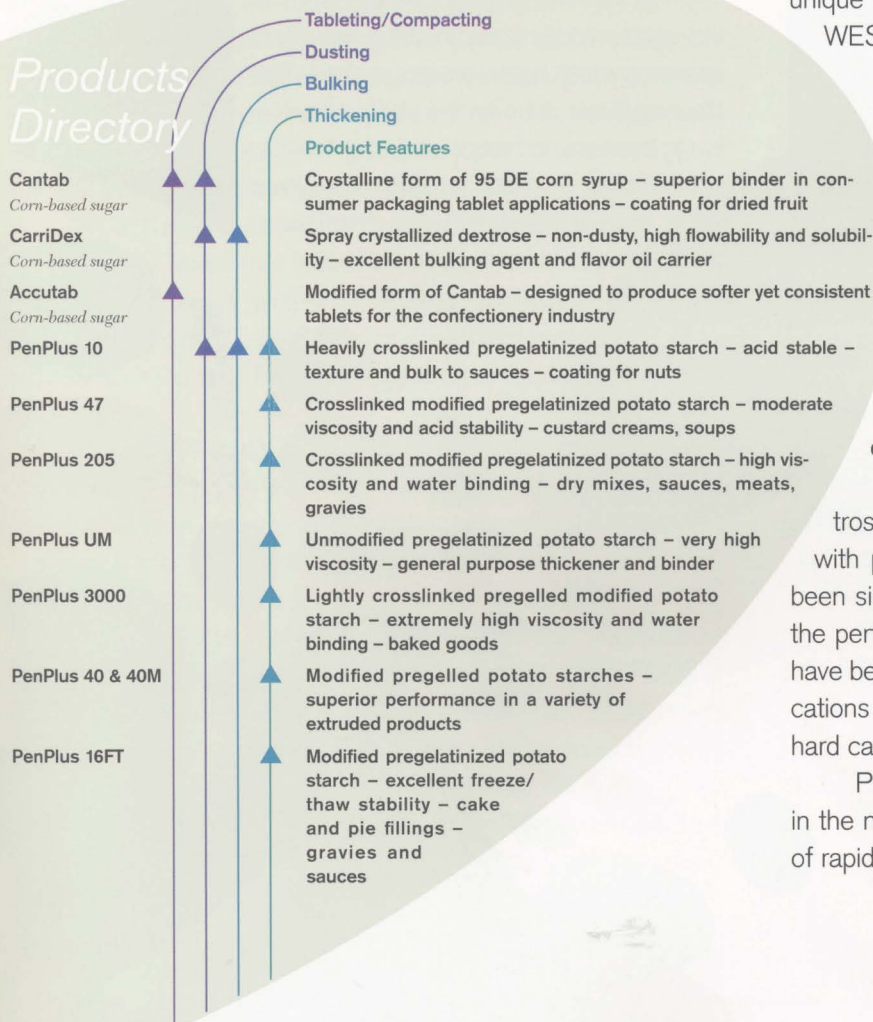
By year's end, PENWEST FOODS had more than two dozen projects underway as part of a strategy of becoming a partner to customers.

One project included a year-long effort to help a customer develop coatings which allow fried foods to remain crispy longer under steam table and hot-lamp conditions in restaurants.

For Fast Break customers, the company is helping test new products and experiment with variations of existing products.

PENWEST FOODS is working on a specialty dextrose for seafood, both export and domestic. Another project with promise focuses on a line of fat replacers. There have been significant improvements, after intensive R & D efforts, in the performance of Fast Break. The CarriDex and Cantab lines have been broadened to include a greater range of specific applications as a flow agent and as a tableting medium for soft and hard candies.

PENWEST FOODS is a tighter, more focused organization in the new year. The division looks forward to many more years of rapid growth and innovation.



Financial Review

PENWEST'S FINANCIAL GOALS

PENWEST has four long-term quantitative goals which underly the company's strategic planning and decision-making. Decisions about capital investments, acquisitions, new product development and executive compensation — among other issues — are made in the context of these goals. And, while not every goal is attained every year, they do generally represent the company's past performance as well as its expectations for the coming years.

The discussion which follows includes a review of performance for the fiscal year as well as for the three-year period ending with the close of the fiscal year. The three-year period most closely represents PENWEST in its current configuration, after the sale of Great Western Malting, a major operating asset.

RETURN ON CAPITAL

The company believes the most important measurement of financial performance is return on operating capital (ROC), which PENWEST computes as the rate of return on the total debt and equity capital invested in the operating assets of the business. The goal is an after-tax return, on average, of 18 to 25 percent. The return in 1992 was 18.6 percent compared with a 20.9 percent average for the three years.

PENWEST emphasizes ROC because it is the measurement which, over time, most closely correlates with increasing shareholder value.

Most of the company's incentive compensation programs are tied directly to ROC targets. There is a substantial upside compensation potential for outperforming ROC targets — and an abrupt end to incentive payouts when ROC targets are not achieved.

EARNINGS GROWTH

The company's goal is to grow earnings at 12 to 15 percent annually, a rate which, in normal operating circumstances, is both reasonable and manageable.

While actual earnings growth averaged 14 percent annually for the three years, fiscal 1992 saw an earnings decline of 14 percent from the prior year as a result of higher manufacturing costs, a severe recession in the paper industry and a change in the way PENWEST accounts for the future cost of medical benefits.

The manufacturing cost increase in fiscal 1992 was a function of lower world prices for corn byproducts and higher repair and maintenance charges. The company records "net corn costs" as the actual price paid for corn after deducting credits for the sale of byproducts, most of which are sold on the open market as animal feed. Higher net corn costs, increased maintenance costs and a change in the product mix accounted for about 9 cents of the 16-cent decline in per-share earnings.

About 7 cents of the total per-share decline was a change in the way PENWEST accounts for future liabilities associated with medical benefits for retirees as discussed in detail in Note H, page 28.

RETURN ON CAPITAL EXPENDITURES

PENWEST — which has invested \$54 million in plant and equipment expansions in recent years — expects a 20 percent after-tax return from these expenditures. With one exception, all major capital expenditures made in the past five years are exceeding this target. This is a target, by its very nature, that the company measures over multiple-year periods.

REVENUE GROWTH

Revenues for the year were up 13.5 percent, gaining an average of 16 percent for each of the three years, exceeding our 12-15 percent goal. Revenues for the year included incremental sales from Mendell. Overall sales in the first half were hampered by capacity constraints at Penford Products Co. Additional capacity came on line in the third quarter and by the end of the fourth quarter Penford was approaching 100 percent of total capacity.

While revenue growth at PENWEST is important as an indicator of strong customer demand, it is a less precise measure of performance than the other criteria. Revenue totals include some swings that represent variations in net raw materials costs rather than rising or falling product unit sales. Thus, earnings could rise in a year of generally falling dollar sales and vice versa.

MANAGEMENT'S DISCUSSION
AND ANALYSIS
OF FINANCIAL CONDITION AND
RESULTS OF OPERATIONS

COMPARISON OF FISCAL 1992
TO 1991 RESULTS

Sales increased \$15.0 million, or 13.5 percent during 1992 as a result of new capacity in midyear for specialty hydroxyethylated starches and a full year sales of pharmaceutical excipient products from the March 1991 acquisition of Mendell. Production of hydroxyethylated starches was nearly at capacity at the end of fiscal 1992 and will be constrained until new capacity is scheduled to come on line in the second half of fiscal 1993. PENGLOSS made a very small contribution to sales in fiscal 1992. The severe paper industry recession and initial marketing strategies have slowed PENGLOSS' market entry. Expansion of the PENGLOSS product lines is encouraging entering 1993. The food products lines contribution improved compared with 1991 supported by stronger volumes in food grade corn sugar products. Mendell sales improved as compared to the sales from March 1991 to August 1991 annualized, due to higher sales volumes across all product lines.

Gross margins were 26.8 percent for 1992 compared to 29 percent in 1991. Margins were down generally during the second half of the fiscal year due to the impact of the adoption of FASB 106 "Employer's Accounting for Post-Retirement Benefits Other Than Pensions," an increase in net corn costs, lower sales prices due to market factors and a change in the product mix.

Operating expenses increased \$2.4 million or 14.3 percent during 1992, primarily due to a full year of Mendell operations.

Research and development expense and other increased \$1.2 million or 50 percent during 1992. In part, this was due to a full year of Mendell expenses and a concerted effort to increase investment in the research and development effort throughout the company, both in real dollars and in the management process.

The effective tax rate was 25.9 percent in 1992 compared to 29.6 percent during 1991. The effective tax rate for both years was less than the statutory rate because of tax-advantaged investment income and the reversal of deferred taxes, which were partially offset by the effect of state tax expense net of the federal benefit. The effective rate decreased in 1992 compared to 1991 due to a lower level of operating earnings taxed at the statutory rate versus tax-advantaged investment income and a decrease in state tax expense.

Without exception, all fundamental business trends for PENWEST remain favorable as fiscal 1993 begins. Demand for our core business specialty paper chemical products continues to grow at a rapid rate despite cyclical paper industry sales. We are presently operating near capacity and should continue to do so until the new capacity comes on line in the spring of 1993. The contribution of PENGLOSS will be dependent upon the overall paper industry in fiscal 1993, improvement in our marketing efforts, wider acceptance of the present family of PENGLOSS products, and the expansion of the PENGLOSS product lines into other phases of the papermaking process. PENWEST's pharmaceutical excipient business anticipates higher contribution levels resulting from increased volume at the new MCC plant in Cedar Rapids scheduled to commence initial production in the second quarter of fiscal 1993 with commercial sales expected in the second half of fiscal 1993. PENWEST FOODS Co. anticipates an increase in the plant nutrition product line and the food grade corn-sugar products volumes. The potato starch based food ingredients product lines are a key factor in improving the contribution margin for PENWEST FOODS Co.

Generally soft economic trends in North America have had very little impact on PENWEST's core business sales or earnings. At this time, the company does not see any signs of a negative effect in fiscal 1993.

COMPARISON OF FISCAL
1991 TO 1990
RESULTS OF OPERATIONS

Sales increased \$19.0 million, or 20.6 percent during 1991, a direct result of continued increasing sales of specialty ethylated starches for the paper industry and five and one half month sales of pharmaceutical excipient products from the March acquisition of Mendell. Production of ethylated starches reached capacity in the second half of fiscal 1991 and will continue to be constrained until new capacity is scheduled to come on line in the first half of fiscal 1992. Fiscal 1992 will reflect a full year of sales from the Mendell acquisition. PENGLOSS, a new paper coating introduced to the paper industry in fiscal 1991, made a very small contribution to sales in fiscal 1991. The food products lines contribution remained consistent with 1990 aided by improved volumes in food-grade potato starch products.

Gross margins were 29 percent for 1991 compared to 27.4 percent in 1990. Margins were generally stable during 1991 due to continued strong performance in the higher margin specialty products and the company policy of hedging raw material prices.

Operating expenses increased \$4.4 million or 28.8 percent during 1991. The primary increase is due to the acquisition of Mendell. The remaining increase was largely due to higher human resource costs associated with current and anticipated growth.

During March 1991, the company acquired Mendell for approximately \$8 million. Mendell manufactures and markets excipients to the pharmaceutical industry. Mendell's gross margins for the six months ended August 31, 1991 were in line with PENWEST's expectations. However, operating expenses were slightly higher than the company's expectations due to non-recurring costs resulting from the change in ownership.

The effective tax rate was 29.6 percent in 1991 compared to 24.9 percent during 1990. The effective tax rate for both years is less than the statutory rate because of tax-advantaged investment income and the reversal of deferred taxes, which is partially offset by the effect of state tax expense net of the federal benefit. The effective rate increased in 1991 compared to 1990 due to a higher level of operating earnings taxed at the statutory rate versus tax-advantaged investment income, and an increase in state tax expense.

LIQUIDITY AND CAPITAL RESOURCES

PENWEST remains in a highly liquid position as a result of the 1989 sale of Great Western Malting. About 14 percent of assets are in short-term investments. In addition, the company has a three year, \$15 million revolving credit agreement. At fiscal year-end there were no outstanding borrowings under this agreement. During the fourth quarter of 1992, PENWEST secured a commitment for a \$20 million Senior Note through a private placement. Funding of the debt is expected no earlier than the first quarter of fiscal 1993.

The excess liquid position and the \$20 million Senior Note will be used to fund capital expenditures and for general corporate purposes.

Operating cash flow was \$12.5 million, \$19.0 million and \$10.0 million in 1992, 1991 and 1990 respectively. The decrease in 1992 was due to decreased income from operations from the carbohydrate-based paper chemical products business and an increase in certain components of working capital, primarily inventory and accounts receivables.

The acquisition of Mendell was completed during March 1991. The acquisition was funded from cash and a temporary borrowing under uncommitted lines of credit. The acquisition of Mendell allowed PENWEST to expand its carbohydrate chemistry-based business into the pharmaceutical excipient market.

Capital expenditures increased to \$19.5 million in 1992 from \$14 million in 1991 and \$13.5 million in 1990. Expenditures have been funded from operations, cash and, when necessary, temporary borrowings under the uncommitted lines. The largest projects were the corn grind expansion and the starch finishing capacity expansion, both of which were completed in fiscal 1992, and the microcrystalline cellulose (MCC) plant for Mendell, which was completed during the first quarter of fiscal 1993. The completed expansions initiated in fiscal 1991 have enabled PENWEST to meet the growing demand for specialty ethylated starches by the paper industry. With the new MCC plant, PENWEST is in a position to manage the production of both the Finland and Cedar Rapids plants to meet the growing demand for MCC in North America and Europe.

Capital expenditures in fiscal 1993 will at least be at the 1992 level and will be funded from operations, excess cash resources and borrowings, if necessary. New capital projects in fiscal 1993 will include the previously announced \$25 million expansion of the corn grind and starch finishing capacity in Cedar Rapids, as well as the completion of projects started in the prior year.

The company commenced paying a quarterly cash dividend of \$0.05 per share with the quarter ended February 28, 1992 and each quarter thereafter. The Board of Directors reviews the dividend policy on a periodic basis.

Other long-term assets increased \$1.6 million. Most of the increase represents investments to fund the Supplemental Executive Benefit Plans.

In the third quarter 1992, the company adopted FASB Statement No. 106, "Employers' Accounting for Post-Retirement Benefits Other Than Pensions," changing to the accrual method of accounting for post-retirement health care benefits. Prior to September 1, 1991, post-retirement benefits expense was recognized when claims were paid. The impact of adopting FASB No. 106 was to increase other post-retirement benefits liability by \$9,010,000 and a corresponding deferred tax asset of \$3,063,000 (\$0.80 per share) at September 1, 1991.

In the third quarter 1992, the company adopted FASB Statement No. 109 "Accounting for Income Taxes," changing to the liability method of accounting for deferred income taxes effective September 1, 1991. The company restated the fiscal year 1992 first quarter income statement to record a benefit of \$1,560,000 (\$0.21 per share) as the cumulative effect of this accounting change at that date. The impact on the second and third quarter's income was not significant.

CONSOLIDATED BALANCE SHEETS

August 31 (Thousands of dollars)	1992	1991
Assets		
Current assets:		
Cash	\$ 235	\$
Investments	18,173	28,815
Trade accounts receivable	13,064	11,821
Inventories	9,847	7,308
Prepaid expenses and other	2,798	3,166
Total current assets	44,117	51,110
Property, plant and equipment:		
Land	2,205	1,975
Plant and equipment	115,996	94,935
Construction in progress	9,544	11,385
Less accumulated depreciation	54,273	47,072
Net property, plant and equipment	73,472	61,223
Deferred income tax	3,301	
Other assets	9,751	8,155
	<u>\$130,641</u>	<u>\$120,488</u>
Liabilities and shareholders' equity		
Current liabilities:		
Accounts payable	7,714	8,282
Current portion of long-term debt	672	300
Accrued liabilities	6,896	8,116
Total current liabilities	15,282	16,698
Long-term debt	30,877	31,550
Other post-retirement benefits	9,710	
Deferred income taxes and other	13,190	12,120
Shareholders' equity:		
Common stock, par value \$1.00 per share, authorized 29,000,000 shares, issued 8,540,474 shares in 1992 and 8,501,327 in 1991	8,540	8,501
Additional paid-in capital	12,332	12,055
Retained earnings	68,994	67,109
Treasury stock, at cost, 1,457,942 shares in 1992 and 1,404,255 shares in 1991	(22,965)	(21,720)
Note receivable from PENWEST Savings and Stock Ownership Plan	(5,319)	(5,825)
Total shareholders' equity	<u>61,582</u>	<u>60,120</u>
	<u>\$130,641</u>	<u>\$120,488</u>

The accompanying notes are an integral part of these statements.

CONSOLIDATED STATEMENTS OF INCOME

(Thousands of dollars)	Year Ended August 31		
	1992	1991	1990
Sales	\$125,952	\$110,910	\$91,998
Cost of sales	<u>92,147</u>	<u>78,722</u>	<u>66,830</u>
Gross margin	33,805	32,188	25,168
Operating expenses and other	<u>23,339</u>	<u>19,673</u>	<u>15,297</u>
Income from operations	10,466	12,515	9,891
Investment income	1,915	2,530	2,899
Interest expense	<u>(2,252)</u>	<u>(2,528)</u>	<u>(2,203)</u>
Income from continuing operations, before taxes and cumulative accounting changes	10,129	12,517	10,587
Income taxes	2,624	3,704	2,637
Cumulative accounting changes, net of income taxes	(4,387)		
Gain on sale (net) of discontinued operations			<u>264</u>
Net income	<u>\$ 3,118</u>	<u>\$ 8,813</u>	<u>\$ 8,214</u>
Weighted average common shares and equivalents outstanding	<u>7,461,439</u>	<u>7,558,910</u>	<u>7,514,637</u>
Earnings per share:			
Continuing operations	\$ 1.01	\$ 1.17	\$ 1.06
Cumulative accounting changes	(0.59)		
Gain on sale of discontinued operations			<u>0.03</u>
	<u>\$ 0.42</u>	<u>\$ 1.17</u>	<u>\$ 1.09</u>
Dividends declared per share	<u>\$ 0.15</u>		

The accompanying notes are an integral part of these statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(Thousands of dollars)	Year Ended August 31		
	1992	1991	1990
Operating activities:			
Net income	\$ 3,118	\$ 8,813	\$ 8,214
Adjustments to reconcile net income to net cash from operating activities			
Depreciation and amortization	8,013	6,999	5,520
Deferred income taxes	682	(1,273)	102
Foreign currency transactions	(96)		
Change in assets and liabilities			
Receivables	(1,243)	(34)	(683)
Inventories	(2,539)	354	(202)
Accounts payable and other	173	4,203	(2,654)
Gain on sale of discontinued operations, net			(264)
Cumulative accounting changes	<u>4,387</u>	<u>—</u>	<u>—</u>
Net cash from operating activities	12,495	19,062	10,033
Investing activities:			
Additions to plant and equipment	(19,450)	(14,006)	(13,537)
Business acquisition		(8,090)	
Other	<u>(161)</u>	<u>45</u>	<u>19</u>
Net cash used by investing activities	(19,611)	(22,051)	(13,518)
Financing activities:			
Proceeds from secured term agreement	325	22,000	
Payments on unsecured line of credit	(325)	(17,500)	
Proceeds from long-term debt		4,300	17,775
Payments on long-term debt	(300)	(4,600)	(14,268)
Purchase of Treasury stock	(1,245)	(120)	(6,599)
Purchase of life insurance for officers' benefit plans	(1,343)	(1,342)	(1,120)
Payment of dividends	(708)		
Other	<u>305</u>	<u>11</u>	<u>(149)</u>
Net cash from (used by) financing activities	<u>(3,291)</u>	<u>2,749</u>	<u>(4,361)</u>
Net decrease in cash	(10,407)	(240)	(7,846)
Cash and cash equivalents at beginning of year	<u>28,815</u>	<u>29,055</u>	<u>36,901</u>
Cash and cash equivalents at end of year	<u>\$18,408</u>	<u>\$28,815</u>	<u>\$29,055</u>
Supplemental disclosure of cash flow information			
Cash paid during the year for:			
Interest (net of capitalized interest)	\$ 1,897	\$ 2,266	\$ 2,168
Income taxes	2,345	1,306	4,682

The accompanying notes are an integral part of these statements.

C O N S O L I D A T E D S T A T E M E N T S O F
S H A R E H O L D E R S ' E Q U I T Y

<i>(Thousands of dollars)</i>	Common Stock	Additional Paid-in Capital	Retained Earnings	Treasury Stock	Note Receiv- able from PENWEST Savings & Stock Owner- ship Plan	Total Share- holders' Equity
Balances, August 31, 1989	\$5,639	\$11,935	\$53,064	\$(21,001)		\$49,637
Net income			8,214			8,214
Exercise of stock options	35	93				128
Purchase of Treasury stock				(6,599)		(6,599)
Savings and Stock Ownership Plan activity				6,000	\$(6,093)	(93)
Three-for-two stock split	2,821		(2,822)			(1)
Pension plan minimum liability			(183)			(183)
Balances, August 31, 1990	8,495	12,028	58,273	(21,600)	(6,093)	51,103
Net income			8,813			8,813
Exercise of stock options	6	27				33
Purchase of Treasury stock				(120)		(120)
Savings and Stock Ownership Plan activity					268	268
Pension plan minimum liability			23			23
Balances, August 31, 1991	8,501	12,055	67,109	(21,720)	(5,825)	60,120
Net income			3,118			3,118
Exercise of stock options	39	277				316
Purchase of Treasury stock				(1,245)		(1,245)
Savings and Stock Ownership Plan activity					506	506
Pension plan minimum liability			(171)			(171)
Dividends declared			(1,062)			(1,062)
Balances, August 31, 1992	<u>\$8,540</u>	<u>\$12,332</u>	<u>\$68,994</u>	<u>\$(22,965)</u>	<u>\$(5,319)</u>	<u>\$61,582</u>

The accompanying notes are an integral part of these statements.

NOTE A
SUMMARY OF SIGNIFICANT
ACCOUNTING POLICIES

Consolidation

The consolidated financial statements include PENWEST and its wholly-owned subsidiaries. Material intercompany balances and transactions have been eliminated.

Cash

PENWEST's cash management system operates so that a cash overdraft for uncleared checks exists in the disbursing accounts. Cash in the accompanying balance sheets represents the net amounts available to the disbursing accounts. Uncleared checks in excess of cash balances of \$11,000 are included in accounts payable at August 31, 1991.

Investments

Investments are carried at cost and consist of preferred stock mutual funds, money market preferred funds and short-term deposits and are considered to be cash equivalents. The market value of the portfolio approximates cost.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost. Expenditures for maintenance and repairs are expensed as incurred. The company uses the straight-line method to compute depreciation for financial reporting purposes. For income tax purposes, the company generally uses accelerated depreciation methods.

Interest is capitalized on major construction projects while in progress. For continuing operations, interest of \$446,000, \$256,000 and \$363,000 was capitalized in 1992, 1991 and 1990, respectively.

Income Taxes

Deferred income taxes are provided on timing differences between financial and income tax reporting methods.

Earnings Per Share

Earnings per common share were computed by dividing net income by the weighted average number of common shares and dilutive common share equivalents outstanding during the fiscal year. Outstanding stock options are considered to be common share equivalents.

Segment Information

PENWEST's primary business segment is developing, manufacturing and marketing chemically modified carbohydrate-based specialty chemicals. No single customer accounts for more than 10 percent of sales.

Research and Development

Research and development costs of \$3,484,000, \$2,972,000 and \$2,393,000 in 1992, 1991 and 1990, respectively, were charged to expense as incurred.

Reclassifications

Certain prior year amounts have been reclassified to conform with current year presentation.

NOTE B
INVENTORIES

Inventories and deferred gains and losses from hedging transactions are stated at the lower of cost or market. Cost, which includes material, labor and manufacturing overhead costs, is determined by the first-in, first-out (FIFO) method.

The company generally follows a policy of hedging corn purchases related to fixed price sales contracts to minimize risk due to market fluctuations. Gains and losses from these hedging transactions are deferred and included in inventory until such time as the corn is converted to finished goods and sold.

August 31 (Thousands of dollars)	1992	1991
Raw materials, supplies		
and other	\$ 4,248	\$ 2,372
Work in progress	526	414
Finished goods	5,073	4,522
Total inventories	<u>\$ 9,847</u>	<u>\$ 7,308</u>

NOTE C
DEBT

Debt consists of the following:

August 31 (Thousands of dollars)	1992	1991
Borrowings under unsecured term agreement	\$22,000	\$22,000
9.55% unsecured note, due in quarterly installments through 2000	5,249	5,550
10.43% note, interest-only payments quarterly, principal installments beginning January 1993 with final maturity in October 1997	<u>4,300</u>	<u>4,300</u>
	31,549	31,850
Less current portion	<u>672</u>	<u>300</u>
Net long-term debt	<u>\$30,877</u>	<u>\$31,550</u>

Maturities of long-term debt for the fiscal years ending August 31, 1993 through 1997 are as follows (Thousands of dollars):

1993	\$ 672
1994	3,880
1995	4,100
1996	4,270
1997	4,270

The company has an unsecured term agreement of \$22 million with four banks which expires on November 30, 2000. Borrowing rates available to the company under the term agreement are at prime rate or less depending on the selection of borrowing options. PENWEST can elect to borrow under several options, including prime, certificate of deposit, Eurodollar and as offered rates. At August 31, 1992, the interest rate was approximately 4.7 percent.

To offset the effect of future interest rate fluctuations on borrowings under the unsecured term agreement, the company has entered into interest rate swap agreements with financial institutions. The agreements covering \$5 million currently and \$10 million effective 1994 of the debt outstanding, fix interest rates at approximately 9 percent.

The term agreement includes, among other terms, various limitations on long-term indebtedness, minimum net worth and working capital ratios, and restrictions of PENWEST's ability to purchase or redeem its own stock. Under the most restrictive of these terms, net worth at August 31, 1992 must be at least \$50 million.

The company has an unsecured revolving line of credit of \$15 million with four banks which expires on April 15, 1995. Borrowing rates available to the company under the revolver are at prime rate or less depending on the selection of borrowing options. PENWEST can elect to borrow under several options, including prime, certificate of deposit, Eurodollar and bankers' acceptance rates. Borrowings under the revolver can be converted, at the option of PENWEST, to term notes due on the expiration date of the revolving line of credit.

The revolver includes, among other terms, various limitations on long-term indebtedness, minimum net worth and working capital ratios, and restrictions on PENWEST's ability to purchase or redeem its own stock. At year-end, there were no outstanding borrowings under this agreement.

The company has uncommitted lines of credit which provide for financing at various floating rates.

The company has hedged the interest rate risk on a portion of its long-term debt using Treasury note futures. The cost of the hedge has been deferred and will be recognized as a component of interest expense over the life of the debt. The result of the hedge will yield an effective interest rate on the hedged portion of its long-term debt of approximately 9.5 percent.

During the fourth quarter 1992, PENWEST secured a commitment for a \$20 million Senior Note at 7.93 percent through a private placement. Funding of the debt is expected no earlier than the first quarter of fiscal 1993.

Continued on page 26

NOTE D
STOCK OPTIONS

Under stock option plans, options have been granted to certain officers and key employees to purchase PENWEST common stock. Changes in stock options for the three years ended August 31, 1992 are as follows:

	1992	1991	1990	1992 Option Price Range
Outstanding at beginning of year	707,007	713,707	798,971	\$ 2.08-22.50
Granted	67,500		52,000	22.63-27.50
Exercised	(39,147)	(6,700)	(37,020)	2.08-16.59
Canceled	(138,598)		(100,244)	12.00-24.00
Outstanding at end of year	596,762	707,007	713,707	\$ 2.08-27.50
Exercisable at end of year	94,762	116,164	92,917	\$ 2.08-27.50

At August 31, 1992, 62,232 stock appreciation rights (SARs) were outstanding to certain officers under related stock option grants. The SARs were granted in December 1986 at the market price of PENWEST stock and are fully vested as of August 31, 1992. As a result of appreciation and vesting of the SARs, expense was charged (credited) for (\$90,000), \$342,000 and \$550,000 in 1992, 1991 and 1990, respectively.

NOTE E
STOCK SPLIT

On February 6, 1990, the Board of Directors declared a three-for-two split of the company's common stock to shareholders of record on February 21, 1990. This stock split was effected in the form of a 50 percent stock dividend by the distribution of one additional share for each two shares of stock outstanding. The par value of the common stock remained at \$1.00 per share. As a result, \$2.8 million, representing the total par value of new shares issued, was transferred from retained earnings to common stock. Amounts per share and numbers of common shares have been restated to give retroactive effect to the stock split.

NOTE F
INCOME TAXES

Income tax expense consists of the following:

(Thousands of dollars)	Year Ended August 31		
	1992	1991	1990
Current			
Federal	\$1,953	\$4,611	\$2,348
Foreign	(196)	99	
State	185	267	187
	<u>1,942</u>	<u>4,977</u>	<u>2,535</u>
Deferred			
Federal	618	(1,266)	100
State	64	(7)	2
	<u>682</u>	<u>(1,273)</u>	<u>102</u>
Total provision	<u>\$2,624</u>	<u>\$3,704</u>	<u>\$2,637</u>

The sources of timing differences resulting in deferred income taxes and the tax effect of each consisted of the following:

(Thousands of dollars)	Year Ended August 31		
	1992	1991	1990
Depreciation	\$ 750	\$(1,081)	\$(234)
Post-retirement benefits	(238)		
Other	170	(192)	336
Total deferred provision	<u>\$ 682</u>	<u>\$(1,273)</u>	<u>\$ 102</u>

Reconciliation of the statutory federal tax to the actual provision is as follows:

(Thousands of dollars)	Year Ended August 31		
	1992	1991	1990
Statutory rate	34%	34%	34%
Statutory tax	\$3,444	\$4,256	\$3,600
State income taxes, net of federal tax benefit	122	176	123
Timing differences reversing at non-originating rate		(447)	(136)
Tax-advantaged investment income	(401)	(583)	(664)
Difference in effective tax rate or foreign income		19	
Other	(541)	283	(286)
Total provision	<u>\$2,624</u>	<u>\$3,704</u>	<u>\$2,637</u>

In the third quarter 1992, the company adopted FASB Statement No. 109, "Accounting for Income Taxes," changing to the liability method of accounting for deferred income taxes effective September 1, 1991.

The company restated the fiscal year 1992 first quarter income statement to record a benefit of \$1,560,000 (\$0.21 per share) as the cumulative effect of an accounting change at that date. The impact on the second and third quarters' income is not significant.

NOTE G
PENSION AND OTHER
EMPLOYEE BENEFITS

PENWEST maintains two pension plans that cover substantially all employees in noncontributory defined benefit pension plans.

Benefits under the plan for hourly employees are primarily related to years of service. Benefits for salaried employees are primarily related to years of credited service and final average five-year earnings. Employees generally become eligible to participate in the plans after attaining age 21 and benefits normally become vested after five years of credited service.

The company's funding policy is to contribute amounts to the plans sufficient to meet or exceed the minimum requirements of the Employee Retirement Income Security Act.

Assumptions used in the measurement of the projected benefit obligation in 1992 and 1991 included a discount rate of 7.75 percent and 8.14 percent, respectively, and a rate of increase in compensation levels of 6 percent for the salaried employees. The assumption used in determining the net periodic pension cost included an expected long-term rate of return on plan assets of 8 percent.

Net periodic pension expense consisted of the following (in thousands):

	Year Ended August 31		
	1992	1991	1990
Service cost of benefits earned during the year	\$ 436	\$ 246	\$ 276
Interest cost on projected benefit obligation	1,189	1,028	1,024
Actual return on plan assets	(987)	(2,267)	123
Net amortization and deferral	197	1,607	(744)
Net pension expense	<u>\$ 835</u>	<u>\$ 614</u>	<u>\$ 679</u>

The following table sets forth the funded status of both pension plans as of August 31, 1992 and 1991 (in thousands):

	Plans with an Obligation In Excess of Assets August 31	
	1992	1991
Actuarial present value of projected obligation, based on service to date and current salary levels:		
Vested	\$14,556	\$13,457
Nonvested	377	323
Accumulated benefit obligation	14,933	13,780
Effect of projected salary increases	1,689	1,384
Projected benefit obligation	16,622	15,164
Plan assets at fair market value	13,100	12,419
Projected benefit obligation greater than plan assets	(3,522)	(2,745)
Unrecognized actuarial net loss	1,971	1,059
Balance of unrecognized net obligation at transition being amortized over 15 years	1,519	1,646
Unrecognized prior service cost	670	720
Adjustment to record minimum liability	(2,471)	(2,454)
Net pension liability	<u>\$ (1,833)</u>	<u>\$ (1,774)</u>

Assets of the pension plans are invested in units of common trust funds managed by Frank Russell Trust Company. The common trust funds own stocks, bonds and real estate.

Continued on page 28

PENWEST Savings and Stock Ownership Plan and Profit Sharing

The company has a savings investment plan. The savings component, available to all employees, matches 75 percent of the employee's contribution up to 6 percent of the employee's pay. The match is made in PENWEST common stock. The plan held 269,149 unallocated shares of PENWEST common stock as of August 31, 1992, including shares earned but not yet allocated. During 1992, approximately 36,500 shares of stock were earned by plan participants. The savings component expense of the plan was \$318,000, \$305,000 and \$275,000 for the fiscal years 1992, 1991 and 1990, respectively.

During 1990, the plan was amended to include an annual profit sharing component that is awarded by the Board of Directors based on achievement of predetermined corporate goals. This feature of the plan is available to all employees who participate in the company's gainsharing programs. The profit sharing expense was \$424,000, \$229,000 and \$242,000 for the fiscal years 1992, 1991 and 1990, respectively.

The plan acquired the PENWEST common stock by issuing a note to the company. The note is amortized ratably as stock is released to participants in the plan.

Supplemental Executive Retirement Plan

Effective September 1, 1989, the company established a Supplemental Executive Retirement Plan (SERP) which covers certain employees. The plan is nonqualified and is subject to the provisions of Statement of Financial Accounting Standards No. 87, "Employers' Accounting for Pensions." For 1992, 1991 and 1990, the net pension expense of the SERP was \$348,000, \$252,000 and \$256,000, respectively.

Health Care and Life Insurance Benefits

The company offers health care and life insurance benefits to most active employees. Costs incurred to provide these benefits are charged to expense when paid. Health care and life insurance expense was \$1,469,000, \$1,350,000 and \$1,140,000 in 1992, 1991 and 1990, respectively.

NOTE H OTHER POST-RETIREMENT BENEFITS

PENWEST maintains two post-retirement benefit plans that cover substantially all salary and hourly retirees.

Benefits under the plan for hourly employees include medical coverage, prescription drug coverage and, to a certain grandfathered group, life insurance. Hourly participants contribute a minimum amount to the cost of the benefits based on a pension credit formula.

Benefits under the plan for salaried employees includes medical coverage and vision coverage. Salaried participants contribute, for the most part, 100 percent of the premium.

Presently, the company funds the plans on a cash basis.

In the third quarter 1992, the company adopted FASB Statement No. 106, "Employers' Accounting for Post-Retirement Benefits Other Than Pensions," changing to the accrual method of accounting for these benefits effective September 1, 1991. Prior to 1991, post-retirement benefit expense was recognized when claims were paid.

The company restated the fiscal year 1992 first quarter income statement to record a pretax charge of \$9,010,000 (\$5,947,000 after taxes or \$0.80 per share) as the cumulative effect of an accounting change at that date. Additional expense related to the adoption of FASB 106 of approximately \$200,000 per quarter (\$130,000 after taxes or approximately \$0.02 per share, per quarter) was recorded in fiscal 1992.

Post-retirement benefit expense was \$1.1 million, \$300,000 and \$300,000 for the year ended August 31, 1992, 1991 and 1990, respectively.

The following table sets forth the plan's funded status as of August 31, 1992:

Retirees	\$5,837
Fully eligible active plan participants	1,397
Other active plan participants	<u>2,476</u>
	9,710
Plan assets at fair value	<u>0</u>
Accumulated post-retirement benefit obligation in excess of plan assets	9,710
Unrecognized net (gain) or loss	<u>0</u>
Accrued post-retirement benefit obligation	<u>\$9,710</u>

Net periodic post-retirement benefit costs include the following components for the year ended August 31:

Service cost — benefits earned during the period	\$ 300
Interest cost on accumulated post-retirement benefit obligations	<u>800</u>
	<u>\$1,100</u>

Future benefit costs were estimated assuming medical costs would increase at a 17 percent annual rate for fiscal 1992 and 1993, then beginning in fiscal 1994, decreasing to an annual rate of 6.5 percent ratably over the next eight years and then remaining at a 6.5 percent annual rate thereafter. A 1 percent increase in this annual trend rate would have increased the accumulated post-retirement benefit obligation at August 31, 1992 by \$1.2 million, with an increase of \$250,000 in the annual 1992 post-retirement benefit expense. The weighted average discount rate used to estimate the accumulated post-retirement obligation was 8.14 percent.

NOTE I SHAREHOLDERS' EQUITY

Unissued Preferred Stock

There are 1,000,000 shares of \$1.00 par value preferred stock authorized for issue; however, none are outstanding.

Common Stock Purchase Rights

On June 16, 1988, PENWEST distributed a dividend of one right (Right) for each outstanding share of PENWEST common stock. In addition, previously outstanding Rights were redeemed for \$0.025 each. When exercisable, each Right will entitle its holder to buy one share of PENWEST's common stock at \$44.00 per share. The Rights will become exercisable if a purchaser acquires 20 percent of PENWEST's common stock or makes an offer to acquire common stock. In the event that a purchaser acquires 20 percent of the common stock of PENWEST, each Right shall entitle the holder, other than the acquirer, to purchase one share of common stock of PENWEST for one half of the market price of the common stock. In the event that PENWEST is acquired in a merger or transfers 50 percent or more of its assets or earnings to any one entity, each Right entitles the holder to purchase common stock of the surviving or purchasing company having a market value of twice the exercise price of the Right. The Rights may be redeemed by PENWEST at a price of \$.01 per Right, and they expire in June 1998.

NOTE J ACQUISITION OF MENDELL

On March 15, 1991, the company purchased the net assets of Mendell for \$8,090,000. Mendell manufactures and markets excipients to the pharmaceutical industry. The acquisition was accounted for as a purchase. Net sales were less than 15 percent of total sales. Mendell's results have been included in the consolidated statements since date of acquisition.

Continued on page 30

NOTE K
QUARTERLY FINANCIAL DATA (UNAUDITED)

1991/92	First	Second	Third	Fourth	
<i>(Thousands of dollars except earnings per share data)</i>	Quarter ^{1,2}	Quarter ¹	Quarter	Quarter	Total
	(restated)	(restated)			
Sales	\$29,349	\$31,524	\$31,652	\$33,427	\$125,952
Gross margin	8,208	8,907	8,163	8,527	33,805
Income from operations	2,526	2,778	2,327	2,835	10,466
Cumulative accounting changes	(4,387)				(4,387)
Net income (loss)	<u>\$ (2,480)</u>	<u>\$ 2,046</u>	<u>\$ 1,644</u>	<u>\$ 1,908</u>	<u>\$ 3,118</u>
Earnings per common share before cumulative accounting changes	\$ 0.26	\$ 0.27	\$ 0.22	\$ 0.26	\$ 1.01
Cumulative accounting changes	(0.59)				(0.59)
	<u>\$ (0.33)</u>	<u>\$ 0.27</u>	<u>\$ 0.22</u>	<u>\$ 0.26</u>	<u>\$ 0.42</u>
Dividends declared		<u>\$ 0.05</u>	<u>\$ 0.05</u>	<u>\$ 0.05</u>	<u>\$ 0.15</u>

¹First and second quarters were restated to reflect the additional expense related to the adoption of FASB 106 of approximately \$200 per quarter (\$130 after taxes or approximately \$0.02 per share, per quarter).

²Restated to reflect the cumulative effect of the adoption of FASB 106 and FASB 109 of approximately \$4,387 (\$0.59 per share).

1990/91	First	Second	Third	Fourth	
<i>(Thousands of dollars except earnings per share data)</i>	Quarter	Quarter	Quarter ³	Quarter ³	Total
Sales	\$25,837	\$26,006	\$29,215	\$29,852	\$110,910
Gross margin	7,196	7,638	9,103	8,251	32,188
Net income	<u>\$ 2,087</u>	<u>\$ 2,262</u>	<u>\$ 2,430</u>	<u>\$ 2,034</u>	<u>\$ 8,813</u>
Earnings per common share	<u>\$ 0.28</u>	<u>\$ 0.30</u>	<u>\$ 0.32</u>	<u>\$ 0.27</u>	<u>\$ 1.17</u>

³Third and fourth quarters reflect the acquisition of the net assets of Mendell in March 1991.

1989/90	First	Second	Third	Fourth	
<i>(Thousands of dollars except earnings per share data)</i>	Quarter	Quarter	Quarter	Quarter	Total
Sales	\$20,915	\$21,910	\$24,346	\$24,827	\$ 91,998
Gross margin	5,404	5,925	7,227	6,612	25,168
Income from continuing operations	1,762	1,963	2,252	1,973	7,950
Income from discontinued operations				264	264
Net income	<u>\$ 1,762</u>	<u>\$ 1,963</u>	<u>\$ 2,252</u>	<u>\$ 2,237</u>	<u>\$ 8,214</u>
Earnings per common share					
Continuing operations	\$ 0.24	\$ 0.26	\$ 0.30	\$ 0.26	\$ 1.06
Discontinued operations				0.03	0.03
	<u>\$ 0.24</u>	<u>\$ 0.26</u>	<u>\$ 0.30</u>	<u>\$ 0.29</u>	<u>\$ 1.09</u>

REPORT OF ERNST & YOUNG,
INDEPENDENT AUDITORS

Board of Directors and Shareholders

PENWEST, LTD.

We have audited the accompanying consolidated balance sheets of PENWEST, LTD. as of August 31, 1992 and 1991, and the related consolidated statements of income, shareholders' equity, and cash flows for each of the three years in the period ended August 31, 1992. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of PENWEST, LTD. at August 31, 1992 and 1991, and the consolidated results of its operations and its cash flows for each of the three years in the period ended August 31, 1992 in conformity with generally accepted accounting principles.

As discussed in Notes F and H to the financial statements, in 1992 the Company changed its methods of accounting for income taxes and other post-retirement benefits.

Seattle, Washington

October 12, 1992

Ernst & Young

REPORT OF
MANAGEMENT

The management of PENWEST, LTD. has prepared and is responsible for the integrity and fairness of the financial statements and other financial information presented in this annual report. The statements have been prepared in accordance with generally accepted accounting principles and, to the extent appropriate, include amounts based on management's judgment and/or estimates. In order to discharge its responsibilities for these financial statements and information, management maintains accounting systems and related internal controls. These controls are designed to provide reasonable assurance that transactions are properly authorized and recorded, that assets are safeguarded, and that financial records are reliably maintained. The concept of reasonable assurance, however, incorporates an acknowledgment that the cost of a control system must be related to the benefits derived.

Ernst & Young, independent auditors, is retained to audit the Company's consolidated financial statements. Their accompanying report is based on an audit conducted in accordance with generally accepted auditing standards including a review of internal accounting controls and tests of accounting procedures and records to the extent necessary to support their audit.

The Audit Committee of the Board of Directors, which is composed solely of outside directors, meets periodically with management and with the independent auditors to review the quality of financial reporting, the operation and development of the internal control systems, and the results of independent audits.

The independent auditors regularly meet with the Audit Committee without the presence of any other parties.

Tod R. Hamachek

Tod R. Hamachek

President and Chief Executive Officer

Jeffrey T. Cook

Jeffrey T. Cook

Vice President, Finance

Edward T. Larkin

Edward T. Larkin

Controller

Board of Directors

Richard E. Engebrecht

Chairman, President and Chief
Executive Officer, Momentum
Distribution, Inc.



C. Calvert Knudsen

Vice Chairman, MacMillan
Bloedel, Ltd.

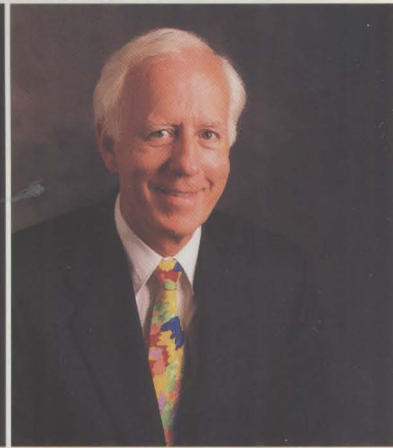
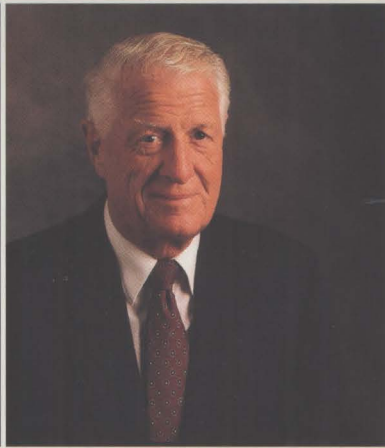
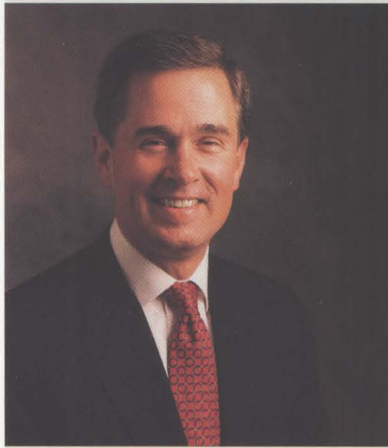


N. Stewart Rogers

Chairman of the Board,
PENWEST

Tod R. Hamachek

President and Chief Executive
Officer, PENWEST



Curtis P. Lindley

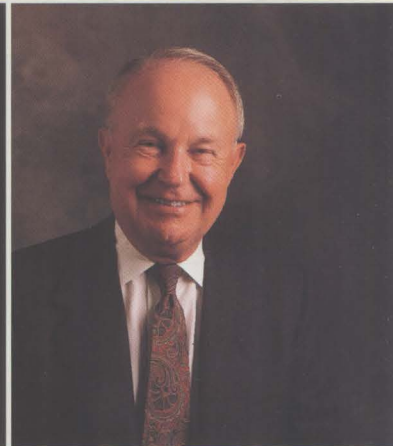
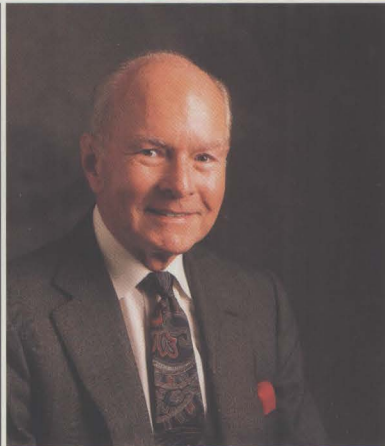
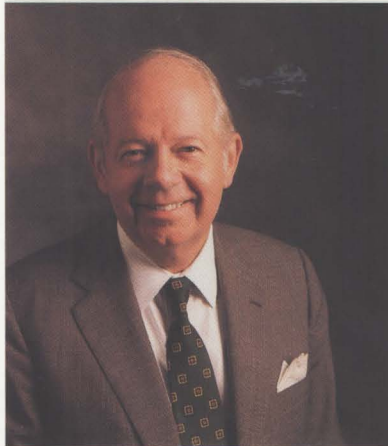
Retired Chief Executive Officer,
PENWEST

William K. Street

President and Chief Executive
Officer, The Ostrom Company

David R. Hinson

Executive Vice President -
Marketing, McDonnell Douglas



Harry L. Mullikin

Chairman Emeritus
Westin Hotels and Resorts

James H. Wiborg

Chairman, Univar Corporation,
VWR Corporation

Officers and Management

Tod R. Hamachek

President and Chief Executive Officer

Franklin E. Olsen, Jr.

Vice President Employee Relations
Corporate Secretary

Jeffrey T. Cook

Vice President, Finance

Robert G. Widmaier

Vice President and
Chief Innovation Officer

Edward T. Larkin

Controller

H. Thomas Reed

Vice President, PENWEST
President and General Manager
Penford Products Co.

John F. Blanco

Vice President, PENWEST
President and General Manager
Mendell

John M. Darcy

Vice President, PENWEST
President and General Manager
PENWEST FOODS Co.

Committees, Headquarters and General Information

Executive Committee

James H. Wiborg, Chairman
Tod R. Hamachek
C. Calvert Knudsen
Curtis P. Lindley
N. Stewart Rogers

Finance Committee

Tod R. Hamachek, Chairman
James H. Wiborg
N. Stewart Rogers

Audit Committee

Richard E. Engebrecht, Chairman
David R. Hinson
William K. Street, Jr.

Compensation and Benefits Committee

C. Calvert Knudsen, Chairman
Harry Mullikin
N. Stewart Rogers
James H. Wiborg

Nominating Committee

Harry Mullikin, Chairman
William K. Street
James H. Wiborg

PENWEST Corporate Headquarters

777-108th Avenue N.E., Suite 2390
Bellevue, WA 98004-5193
(206) 462-6000

Penford Products Co. Headquarters

1001 First Street S.W.
Cedar Rapids, IA 52404

1088 West Sunnyside Road
Idaho Falls, ID 83402

Mendell Headquarters

2981 Route 22
Patterson, NY 12563

1001 First Street S.W.
Cedar Rapids, IA 52404

Lonsdale House,
7-11 High Street
Reigate, Surrey TH2 9AA, UK

Maitotie 4, 15560 Nastola
Finland

Röpckes Mühle 2
W-2082 Uetersen
Germany

PENWEST FOODS Co.

Headquarters

11011 East Peakview Avenue
Englewood, CO 80111

1001 First Street S.W.
Cedar Rapids, IA 52404

216 First Street
Richland, WA 99352

Pacific Cogeneration, Inc.

777-108th Avenue N.E.,
Suite 2390
Bellevue, WA 98004-5193

Annual Meeting

10:30 a.m., February 9, 1993
Museum of Flight
9404 E. Marginal Way S., Tukwila, WA

Form 10-K

The company files an annual report with
the SEC on Form 10-K, pursuant to the
Securities Exchange Act of 1934.
Shareholders may obtain a copy of this
report without charge by written request
to our headquarters' address.

Legal Counsel

Preston Thorgrimson Shidler Gates
& Ellis
5000 Columbia Center
701 Fifth Avenue,
Seattle, WA 98104

Auditors

Ernst & Young
999 Third Avenue, Suite 3500
Seattle, WA 98104

Investor Relations Counsel

Corporate Communications, Inc.
2125 Fifth Avenue
Seattle, WA 98121
(216) 728-1778

Kekst & Co., Incorporated
437 Madison Avenue
New York, NY 10022 (212) 593-2655

Transfer Agent and Registrar

First Interstate Bank of WA, N.A.
c/o First Interstate Bank
26610 West Agoura Road
Calabasas, CA 91302

Shareholder Information

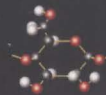
First Interstate Bank
Shareholder Services
(800) 522-6645

Stock Price Data

Traded National
Over-the-Counter
NASDAQ Symbol: PENW

	Market Price	
	High	Low
1991/92		
Quarter Ended 11/30	25.50	22.63
Quarter Ended 2/28	34.50	22.75
Quarter Ended 5/31	36.25	26.00
Quarter Ended 8/31	28.00	23.25
1990/91		
Quarter Ended 11/30	28.00	20.00
Quarter Ended 2/28	32.50	20.50
Quarter Ended 5/31	35.50	29.50
Quarter Ended 8/31	32.75	24.00
1989/90		
Quarter Ended 11/30	17.00	15.83
Quarter Ended 2/28	22.50	16.67
Quarter Ended 5/31	30.25	22.00
Quarter Ended 8/31	35.13	22.50

The number of common shareholders
of record as of October 21, 1992, was
1,718.



777 - 108th Avenue NE

Suite 2390

Bellevue, Washington

98004-5193

R
Dir
Dir
Corpa
High q
Glossy n
Color new
Newspaper
Biodegradab
Botanical nutr