

From the Factory to the Farm

An Appraisal of the Farm Equipment Industry

"Growth is the only evidence of life," said Cardinal Newman. If this be true, the Sixth Federal Reserve District is very much alive, as evidenced by the tremendous economic expansion here during the last decade or so. Coincident with dynamic growth in almost every phase of business has been a significant change in the region's economic structure. No longer is agriculture the main prop of the South's economy; manufacturing has become one of its supporting pillars and today actually accounts for a larger share of the District's income than does agriculture. Within manufacturing, moreover, diversification is the keynote. The oldest and still most important industries, textiles and lumbering, have lost some ground to chemicals, machinery, metals, and a host of other industries that once were strangers to the South.

Some of the industrial expansion resulted when national concerns were attracted to the South by the raw materials, abundant labor supply, and favorable climate here. Some of it, however, came about as local enterprisers invested local capital to satisfy local needs. The farm equipment industry is a striking example of such a development.

Economic Changes in Agriculture Spurred Rise of Implement Industry

To understand what has transpired in the farm equipment industry, changes in the region's agriculture must be considered. Happenings in one are mirrored in the other. It is a time-honored principle of economics that an enterpriser will substitute one factor of production for another to achieve a desired end at a lower cost. Operation of this principle within agriculture has resulted in the gradual replacement of man power by machine power.

Around the turn of this century, the population movement from the farm to the city began to step up in tempo, partly in response to the higher wages offered by industry. At the same time, a growing population demanded more and more agricultural products. Under such pressures, the machine made its debut. With the outbreak of World War II, the farm manpower problem became even more acute as labor was inducted into the armed forces or was attracted to defense jobs. Dependence on the tractor and countless farm implements was thus magnified. Rising production costs, the growth in farm income, and the trend toward fewer but larger farms also accelerated the movement toward mechanized agriculture.

That farm mechanization has rolled along in high gear is clearly evident from statistics on tractors in use. Back in 1920 only 9,000 tractors were to be found on District farms. By 1940, the number had climbed to 57,000, and by 1950 it had jumped to 276,000. Meanwhile, the number of horses and mules on farms fell by more than a third.

Fundamental economic forces generated the underlying demand for farm implements. But the requirements of Southern agriculture strongly influenced the industry in the District to produce certain types of equipment, such as the peanut and sugar cane harvesters, for use almost exclusively in this region. Also, the industry has adapted certain standard equipment to the area's needs.

Uppermost in the minds of those investing in this industry were, of course, the prospective profits. Many of them felt the opportunities were particularly great because, through previous experience in farming or in factories, they had acquired first-hand knowledge of the mechanization problems confronting farmers. In general, it was small firms that took advantage of these opportunities.

To create a common meeting ground for the discussion of their mutual problems and to further the progress of the industry, District producers got together in 1950 and organized the Southern Farm Equipment Manufacturers, Inc., a trade association. The cooperation of this association contributed much to a survey conducted by this Bank early in the summer in an effort to learn more about the role and operations of the industry. Much of the material contained in this study is based on that survey.

District Production Largely of Implements

Farm equipment embraces two major types of commodities: machinery, consisting mostly of tractors and other machine-powered items; and implements, including tools that may be mounted on or pulled by tractors or drawn by animal power. Only a handful of firms in the nation produce tractors and a full line of implements. These giants in the industry have tended to concentrate their large-scale production on items that have a wide market.

Production in the District is mostly of implements. Short-line companies, often producing only three or four farm tools, have grown up to meet the demands of their particular communities. These manufacturers have centered their production on tools for use in preparing the soil, planting, and cultivating, as well as on special farm equipment. Changes in farming practices and in technology have created a need for special equipment, such as irrigation systems and anhydrous ammonia applicators.

Biggest Growth in Number of New Firms Has Taken Place Since 1940

"Something old and something new" aptly characterizes the farm equipment industry in the District. At least one firm was turning out plowshares and other mule-drawn tools as long ago as a decade after the Civil War, whereas another such firm opened shop just last year. Nevertheless, the main expansion in the industry is of recent origin. According to the Census of Manufactures, only 18 firms

manufacturing farm equipment existed in the District in 1939. The number rose to 46 in 1947, and today there are an estimated 120 scattered throughout the region.

Over half of the plants that set up operations after 1940 began at the end of the war when the backlog demand for planting, cultivating, harvesting, and many other special tools appeared insatiable. The peak in the birth of new firms apparently now has been reached. Since selling today is not so easy and profits are not so quick, the number of firms entering the industry has declined sharply since 1950. Although many firms started as single proprietorships or partnerships, today over 70 percent are incorporated. Nevertheless, most of them are controlled by a few people so that, from a management viewpoint, they enjoy the advantages characteristic of sole ownership and the corporation.

Employment Opportunities Increase Commensurate with Growth of Industry

With small-scale plant operations in the District, mass production techniques are feasible only to a limited extent. The production of farm equipment, other than a few items such as tractors, is not readily adaptable to the famous American assembly line, simply because of the wide variety of tools produced. Practically all farms need a tractor, but not all farms need bush-and-bog harrows, subsoilers, cane loaders, and the like.

Employment statistics show that the firms are comparatively small. In 1952, employee numbers ranged from around 10 in some plants to more than 100 in others, but the median was about 35. As the industry has expanded, it has provided increasing employment opportunities. In 1947, District manufacturers had over 3,000 people on their payrolls, or almost four times the 1939 figure. It is reasonable to assume that the labor force has grown still further since 1947.

Because of the inherent nature of small operations, the average employee performs many different jobs, all the way from processing raw materials to final assembly. In one plant, workers operate precision machines, such as drill presses and lathes, and also help assemble the finished products. It is estimated that at least half of the employees in District plants are either skilled or semi-skilled; in some plants, the ratio is much higher.

Most of Raw Materials Found in the South

In addition to an expanding market and a plentiful labor supply, perhaps another element conducive to the rise of the District farm implement industry has been the availability of raw materials. Manufacturers estimate that they get about three fourths of their raw materials from the South; transportation costs, therefore, can be kept to a minimum. Purchasing agents generally find that they have to buy only the more refined raw materials outside the Southern market.

By far the most important materials, both in terms of quantity used and cost, are iron and steel. Whenever possible, manufacturers get these products from mills in Atlanta, Birmingham, and Gadsden. Immediately after the start of the Korean War, however, some firms found

it necessary to go abroad, particularly to Belgium and Germany, for certain kinds of steel. Pig iron is obtained from mills in Birmingham; lumber, of course, comes directly from Southern markets. Only for such items as motors, disc blades, certain kinds of bearings and steel do District manufacturers rely upon the more highly industrialized areas of the nation.

A short supply of raw materials has been the chief limiting factor on farm equipment production during the last few years. Only in recent months have most plants been able to get as much as they want. Although some larger firms are still burning up telephone lines hunting for special materials, producers generally believe the days of scarce supplies have vanished.

Research Is Making a Contribution

Research has contributed significantly to the rise of the farm implement industry in the District. To survive and grow, a company must produce what the public wants and also continually keep at least abreast of other firms in the field through cost reductions and qualitative product improvements.

District farm equipment producers all subscribe to the vital and dynamic function of research. One operator stated that there is more need for product development here than in almost any other industry, especially since the return of a buyer's market and tougher competition. Yet not all producers are in a financial position to conduct extensive research. At the smaller plants, top management performs the dual role of executive and researcher. The larger plants have research departments with from one to more than ten full-time employees.

In improving old products and developing new ones, District firms can rely upon public and private research institutions, such as experiment stations and agricultural colleges, for tests and information. Management must be alert to innovations in planting and growing practices, in types of seeds and fertilizers used, and so on. Many firms have their own gardens or farms, and the use of nearby farms, for rigorous experimentation and testing of implements.

Research has proved invaluable to District firms in meeting competition not merely by continually producing new or redesigned tools, but also by directly affecting operating costs. Because of the costly production machines used and the general plant facilities required, fixed costs represent a significant part of the total. For efficient, low-cost operations, therefore, producers try to maintain year-round production. Yet, the nature of the farm equipment industry makes it highly seasonal; at times during the year some plants face the prospect of closing down operations altogether. To avoid cutting down on employment and idling machines, about 40 percent of the plants are producing items other than farm implements. Apparently not all firms have been completely successful in this venture, but most claim that they have dulled the sharp seasonal swings in production through research and development.

Various Distribution Systems Effective

After the implements are developed and produced, they must find their way to the ultimate consumer, the farmer.

Regardless of the excellence of the product put on the market, the success of the manufacturer depends basically upon the effectiveness of his distribution system. For this vital role, farm equipment producers rely principally upon retail dealers and independent wholesale distributors. Several have their own retail outlets, and some sell at least part of their output directly to the farmer.

About a third of the firms visited have connections with full-line companies that simplify their distribution problems. According to the agreement, in effect and in part, the District firms act as branch manufacturing plants for the large companies by producing upon order implements bearing the trade name and color of the giants. These tools are then distributed through the wholesale branches of the large concerns. The proportion of the output sold this way varies from firm to firm and from year to year, ranging from less than 20 percent up to around 80 percent in a given year.

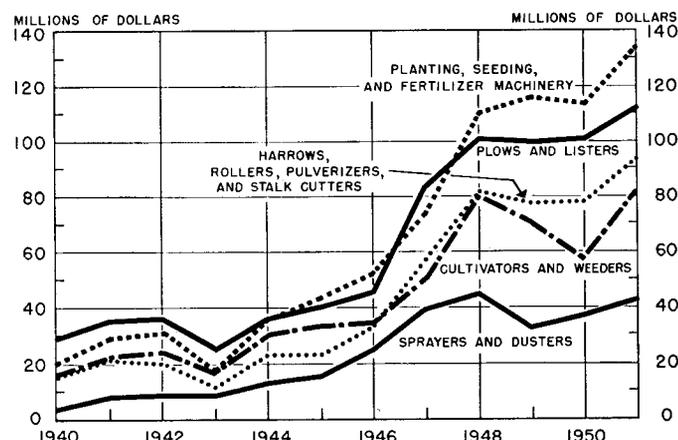
Contracting part of the production to full-line firms has the merit that payment is quick and certain and that only a small selling force is necessary. Perhaps the major drawback is that it places a large part of the proverbial eggs in one basket so that if orders should not be forthcoming, the firm would have to start almost from scratch in developing another distribution setup. It would seem, however, that the benefits outweigh the disadvantages.

Local Industry Now Competes in National and Foreign Markets

Under this distribution system during the booming post-war years, the farm equipment business surged forward at a breath-taking pace. By 1951, the value of shipments from District plants, including tractors, totaled 82 million dollars, or 450 percent more than in 1947, compared with an increase of only 70 percent for the nation. The District's share of total shipments thus rose from 1.1 percent to 3.7 percent. Some idea of the general expansion at District plants over a longer period of time can be obtained from data for the nation, which is shown in the accompanying chart.

kets. In 1952 around half of the firms surveyed sold about 20 percent of their total output outside the South. Also, during the last 15 years, more than half of them have done some exporting, and many others are seriously contemplating the broad foreign market today.

Total U. S. Shipments of Leading Items Produced in the District



The District's farm equipment industry is well prepared to assist foreign agriculture because implements produced for use mainly in the South can be converted easily for use in other countries where climate, crops, and farm practices are similar. Harvesters and loaders developed primarily for Louisiana sugar cane production, for example, are now found in Latin America, Africa, and other cane-growing areas.

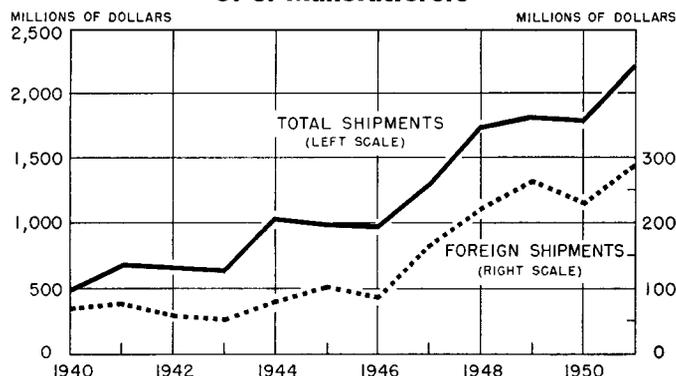
Exports constitute a relatively large share of the total sales of some District firms. In 1952, a little less than half of the firms engaged in exporting sold more than 10 percent of their total output abroad. The first chart also shows that foreign markets for American farm equipment have grown rapidly in the last decade. During the war period, shipments were limited because of restricted production and because the domestic market absorbed most of what was produced.

Most firms that do export business deal through merchants who handle all the technical aspects of exporting. The manufacturer merely ships the goods to the designated port and receives payment in United States dollars. To him the transaction is, for all practical purposes, a domestic one. At least two firms in the District have established their own export departments because a significant portion of their business is in the overseas market. Under this setup, they have created dealerships abroad and handle all the export details themselves.

Producers Apt To Rely More and More on Bank Financing

Because of the lush business conditions of the last decade, problems of finance did not trouble the farm equipment industry. The working capital requirements of these small firms were not large, and there was little occasion for bank borrowing. Bank credit to help finance sales was also in little demand by the industry. About two fifths of the firms did more than 60 percent of their 1952 business on the

Shipments of Farm Equipment (Including Tractors) U. S. Manufacturers



A business may find that its expansion is distinctly limited if it is geared to the needs of a purely local market. Attempting to push through this barrier, a number of firms in the District have entered the national and global mar-

cuff. The customary 30-day open-account terms, however, were nearly equivalent to cash because dealers usually took advantage of a 2-percent discount offered for payment within 10 days. As a result, four out of five manufacturers stated that none of their sales involved bank borrowings. When the dealer sells to the farmer, however, fairly common terms are a third down with the balance payable in two equal instalments usually at the end of the two succeeding crop seasons.

Because larger firms tended to offer longer credit terms, they were more likely to rely upon banks for financial assistance to carry receivables. Any borrowing done was against the firm's own notes; none of the concerns discounted customer paper. Some companies occasionally financed purchases of raw materials through banks, which, in a few cases, was done under typical bonded warehouse arrangements. On the whole, larger firms could buy their raw materials on credit, and they usually got enough cash from their sales to carry on their day-to-day operations.

The problems of yesterday have vanished, but new ones have taken their places. Declining farm prices and incomes have forced the farmer to tighten his belt a notch or so and to make only the most essential purchases of capital goods. An increasing number of firms are turning, therefore, to future, or advanced, dating to help stimulate sales.

Under future dating, a manufacturer ships merchandise to his dealer or distributor in August, for example, but dates the bills or invoices later, perhaps the first of October. If the dealer pays on or before October 10, he is allowed a 2-percent discount. If payment is delayed for several months after shipment of the implements, the manufacturer's working capital requirement will be considerably greater. Some of the larger operators have regularly followed the practice of future dating, but the advent of a decided buyer's market is forcing them to advance the invoicing date even further. All this augurs increasing reliance upon banks as sources of credit.

In Sum: And a Glance at the Future

Much has happened in the farm equipment industry during the thirteen kaleidoscopic years since 1940. An industry small by most standards has grown rapidly, expanding beyond the confines of its native territory until now its products are found in the four corners of the United States as well as in nearby Cuba and far off Madagascar. The industry is almost wholly Southern; capital, management, labor, raw materials, ideas—all have largely originated here.

The inevitable close dependence upon District markets and Southern sources of raw materials has been and continues to be beneficial even while it creates problems. Until recently, shortages of raw materials thwarted sales by limiting production at the same time that agricultural income was climbing rapidly. Today, however, the old shoe is on the other foot. Materials are increasingly more abundant, but a slackened demand has caused production to slow down.

Nevertheless, most manufacturers surveyed were rather optimistic about sales prospects, at least for 1953. Almost

half of them think their sales this year will exceed the high 1952 marks, mainly because of the development of new products and the opening of new sales territories. About a third expect lower sales because of sliding farm incomes and prices. All agree that sales are increasingly harder to make. Furthermore, the industry is facing a cost-price squeeze. Production costs are up mainly because of higher steel prices; and manufacturers, facing stiff competition, are not in a position to raise prices of farm equipment.

In the more distant future, the major problem confronting the industry will be marketing. Competition among the smaller producers and also between the larger and smaller concerns is becoming more rugged. The full-line producers can and do extend much more liberal credit terms to their dealers and distributors than District manufacturers can offer. Moreover, the larger firms in other areas are beginning to turn out implements that will compete more directly with those produced by District firms.

Export prospects are that 1953 will not be as bright as other recent years. The substantially improved dollar position of many countries today is more the result of reduced buying from this country than of increased sales to it. Moreover, tightening import restrictions in some of the Latin American countries, the second most important market for United States farm machinery, also are retarding exports. Although the outlook for the near future is not too encouraging, the long-term overseas demand for farm implements is potentially great. One of the first steps taken by underdeveloped countries to increase production is to employ more modern tools and equipment in farming. With American and United Nations assistance, these countries are making a start in this direction. As a result, District producers of farm equipment are planning to enter the foreign market with much more vigor than in the past.

The problems of the District's farm equipment industry are not unlike those faced by other small unit industries that have grown rapidly because of the favorable markets of the postwar period. By finding wider markets for its products at home and abroad, and by continuous improvement and innovation in the machines used in agriculture, the industry will continue to contribute to the prosperity of the South. Only by vigorously meeting this challenge can individual firms survive.

BASIL A. WAPENSKY

Bank Announcement

On August 8, the newly organized First National Bank of Newton, Newton, Mississippi, opened for business as a member of the Federal Reserve System. This bank is located in territory served by the New Orleans Branch. It began operations with a capital stock of \$75,000 and surplus and undivided profits of \$50,000. Officers are John T. Thrash, President; J. S. Mayfield and F. D. Copeland, Vice Presidents; C. D. Jackson, Vice President and Cashier; and L. G. White, Jr., Secretary.