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# MINNESOTA farm business NOTES



NO. 421

ST. PAUL CAMPUS, UNIVERSITY OF MINNESOTA

September 1960

## WHAT'S BEHIND OUTLOOK?

We feel our readers will appreciate and value outlook information more fully if they understand its development and use. With this thought in mind, for the second year, the September issue of *Minnesota Farm Business Notes* is being devoted to "What's Behind Outlook?"

### How Outlook Gets to You

K. E. Egertson and L. J. Pickrel

Outlook information is essential to sound planning and decision making. The method of furnishing this information is complex. As yet, no crystal ball has been discovered to make this job simple; nor can anyone hope to perform the entire job alone. Agricultural producers, farm suppliers, commodity buyers, government officials, the Congress, and others are provided with this essential service only through the diligent and cooperative effort of many individuals.

#### THE PROCEDURE . . .

Figure 1 shows the flow of outlook information as it moves from its raw state to a finished product. During the process, major functions are performed by numerous persons and institutions.

Facts are essential to understand a trend or situation, but in their raw, unprocessed state they are of little use. Before they can have economic meaning and usefulness, they must be (1) reported, (2) assembled, (3) interpreted, (4) disseminated, and (5) applied.

• **Reporting** of reliable data is the backbone of a strong outlook program.

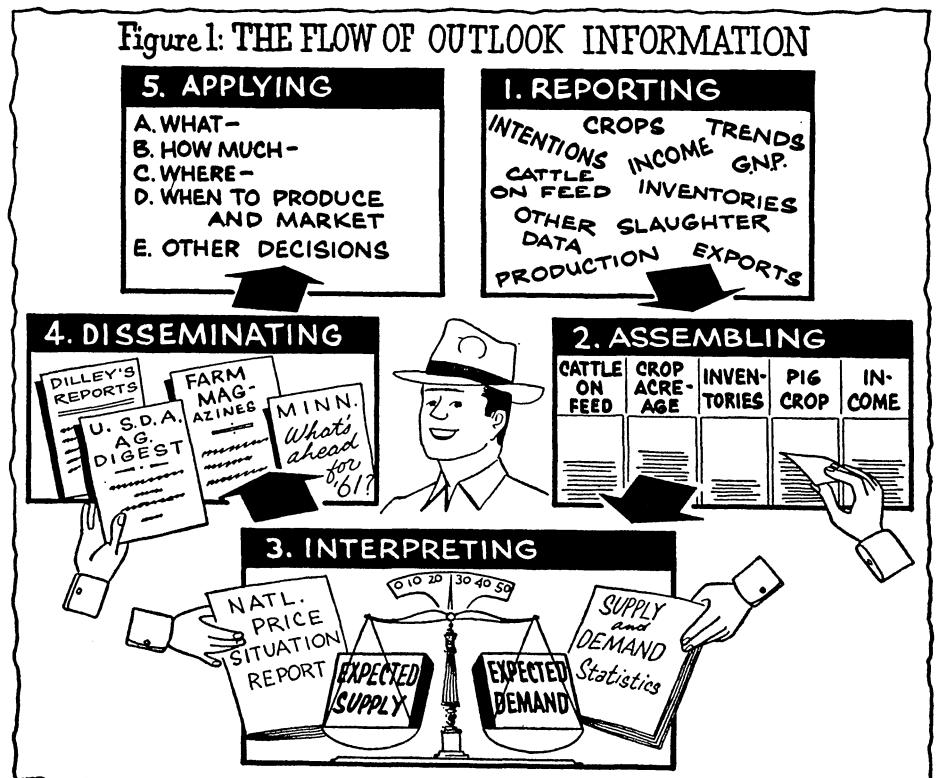
Without it the process would soon grind to a halt. To the untrained eye, data often seem both confusing and meaningless, but to the trained analyst they are useful and practical. The mass of available facts on the supply of and demand for a product, for instance, must be known before any reasonable outlook forecast can be made.

Many individuals and institutions **voluntarily** report essential supply and demand data. The farmer is one of the most important reporters in this group. Through the farm census, mail questionnaires, tax assessment reports, and other media, he furnishes information about supplies, inventories, acreages, and intentions. These reports, after they have been combined with many others and properly interpreted, even-

tually provide the farmer with material that can help him in planning his future production and marketing programs. Thus, the role of the farmer shows up on both ends of the outlook flow chart (see figure 1).

• **Assembling** is the next step. Reports coming from thousands of people must be collected, classified, and combined in order to be properly interpreted.

Again, many individuals, both private and public, carry out this function. A major share of the work is done by State and Federal Crop and Livestock Reporting Services. Reports on pig crops, cattle on feed, crop acreages, inventory of livestock, and other agricultural situations are of special importance in the field of outlook.



## What's Behind Outlook

(Continued from page 1)

The Market News Service of the USDA also assembles data on market prices, available stocks, and other useful information. Similarly helpful are the statistics on expected demand that are gathered by the Department of Commerce, Department of Labor, and private institutions.

Summarized reports published by these various sources are available to everyone, although trained analysts usually review them for further interpretation.

• **Interpreting** is the third important function. Regardless of how much material is assembled, it is of little value unless skillfully analyzed and interpreted. Proper weighing of all the forces that affect prices is a technical

job; a misinterpretation of one factor could mean a wrong forecast. Trained analysts in the USDA; state agricultural experiment stations and extension services; and private concerns organize, analyze, and interpret economic data so they will be useful to the decision maker in setting plans for the future.

• **Disseminating**, or getting information into the hands of the decision maker in a usable form, is the next function.

In most states the agricultural extension service selects and disseminates outlook information through printed materials, local farm meetings, radio, and telecast shows. Farm magazines, local newspapers, private businesses, and others also do an increasingly effective job of providing outlook information to potential users.

• **Applying** outlook information is another important function in the pro-

cess of effective outlook. Unless outlook information is put to use, it can have little value to anyone. This function of application must be performed by the individual or group who makes decisions. The information assembled for this purpose is available to everyone who wants it. If a person expects to compete successfully in his field, he must have and make use of this information.

The process of furnishing outlook information transforms a mass of economic data into something that can be applied in practice. Since outlook results are often used by the same people who provide the basic information, it is important that all farmers cooperate with the reporting phase of outlook. Only through cooperation can a continuing flow of accurate, timely, and reliable information be provided to those who need it.

## Problems in "Working Up" Outlook

W. B. Sundquist and L. M. Day\*

People who use outlook information should be aware of the numerous problems and uncertainties encountered in "working up" outlook. These problems can usually be resolved, however, to make outlook predictions much more accurate than those based solely on uninformed judgment. Despite an occasional error in outlook predictions, they provide a much better basis for making future plans than does "guesswork."

The eventual focus of most outlook analysis is on the prediction of the price-income possibilities of specific commodities. Before these predictions can be made, however, much information must be collected, analyzed, and interpreted. The objective of this article is to discuss briefly the procedures and problems encountered in these several phases of "working up" outlook.

### INDICATORS USED BY THE ANALYST

A number of indicators are typically used to assess future levels of supply and demand for specific agricultural commodities.

**Demand Indicators:** Factors for assessing future demand are: (1) domestic population, (2) level of consumers' disposable income, (3) level of employment, (4) per capita consumption rates for specific commodities, (5) shifts

in consumers' tastes and preferences for food and fiber products, (6) prices of competing products, and (7) foreign demand via Public Law 480 and regular commercial export channels.

Reliable estimates of (1) the level of general domestic economic activity and (2) the level of exports, including government controlled exports, are especially difficult to obtain.

**Supply Indicators:** Several indicators are used quite generally to assess future supplies of agricultural commodities. These indicators include: (1) farmers' intentions to produce, (2) expected product prices, (3) prices of competing commodities, (4) government production controls, (5) expected yields, (6) acreages available for planting, (7) production costs, (8) livestock numbers on farms, and (9) past marketings.

### SECURING INFORMATION ON SUPPLY

In constructing the above supply indicators, outlook analysts rely heavily on information provided by farmers. This information may include (1) inventories of production resources, (2) surveys of producers' intentions, and (3) historical data pertaining to production levels and trends.

### Inventory of Production Resources

Annual inventories of the "production plant" in agriculture are conducted both by the U. S. Department of Agriculture and by State agencies. These

inventories enumerate livestock on farms, crop acreages, and crop yields—all based on a sample of farms. The Census of Agriculture taken every 5 years provides more complete and detailed information on number and size of farms and on available manpower, machinery and equipment, livestock numbers, and crop acreages.

Problems arise in obtaining accurate annual inventories because of inadequate samples and biases in sampling and reporting. Part of this bias can be overcome, however, because it occurs from year to year and can be predicted. Information collected in the Census of Agriculture is usually quite accurate immediately following census enumerations, but is subject to increasing error with the passing of time. Hence, prompt and accurate reporting of information by farmers is essential if annual inventories are to be adequately reliable.

### Survey of Farmers' Intentions

Mail and interview surveys of farmers' intentions to produce certain agricultural commodities are conducted annually or occasionally by the USDA and state governmental agencies and by private organizations engaged in outlook work. In recent years, surveys of the number of sows expected to farrow and the acreage of crops farmers expect to plant have been important aids in predicting short-run outlook for hogs and field crops.

Problems do come up in using surveys of farmers' intentions. First, the sample of producers reporting may not be "representative" of all producers.

\* Agricultural Economists, Farm Economics Research Division, ARS, USDA.

This lack of representativeness may be the result of drawing an improper sample or of a reporting bias resulting from a disproportionate number of small, large, optimistic, or pessimistic producers responding. Another important source of error is the possibility of changes in production plans which occur after the intentions survey has been made. Such changes in plans may be voluntary, or they may be involuntary as people are forced to alter plans because of unforeseen changes in weather, prices, health, etc.

#### Use of Historical Information

Much can be learned about the near future by studying the recent past. Crop yields, feed-livestock conversion rates, and milk production per cow are examples of production relations that change slowly and usually can be predicted for short future time spans by observing the recent past.

Valuable historical information is recorded and published by State and Federal agricultural agencies and also by private organizations. Particularly useful are regularly recorded series of quantities and grades of crops and livestock produced and marketed and the prices received for them. Comparisons are often made between these and published series on production expense items. These series provide information on long time (trend) changes as well as "seasonal and cyclical" movements in supplies and prices.

One of the problems encountered in using historical information for outlook work is the difficulty of keeping the data up-to-date. Trends in production are subject to rapid change particularly when new production techniques or new products become available. Examples are the development of new antibiotics for livestock, sprays for crops, and synthetic fibers for use in the manufacture of clothing.

Another problem is that seasonal and cyclical variations in production and price are not always of equal size or duration. For example, cycles in livestock production vary in length. Extreme changes in prices or weather can unexpectedly trigger cycles in beef cattle or hog production that vary in length even with stable weather and prices.

This problem has diminished, however, as price fluctuations in prices for crops have been reduced by price support programs and by improvements in transportation and the construction of more storage facilities, both public and private. Increased dispersion of freshening dates of dairy cows and multiple farrowing of sows have, in gen-

eral, reduced seasonal price fluctuations in dairy and hog prices.

#### ANALYZING AND INTEGRATING INFORMATION FOR OUTLOOK

The most critical stage in "working up" outlook is perhaps that of analyzing and interpreting collected information. Each of the types of information described above has shortcomings, but when appraised together, they provide adequate information for accurate predictions.

Sampling error in a farm survey may be discovered by comparing the size of sample farms with recent census information on farm size for the same area. The survey may then be adjusted to include more big or small farms to make the sample representative of the area.

A favorable hog-corn price ratio points to increased farrowing for the next year. This is true even though the typical contraction period of 2 years in previous hog cycles would indicate another year of reduced farrowings in 1961. Such situations illustrate the need for considering and properly interpreting all of the information available.

Before making outlook predictions the analyst must appraise the probability of occurrence of price support programs and the likely effects. He must also appraise recently developed production techniques and the rate of their adoption by farmers. Both become more difficult as the time span over which predictions are made increases.

Finally, both farmer and analyst need to assess results of production adjustments that may be made by farmers as a result of the agricultural outlook. For instance, if the outlook is for favorable hog prices for the next year, and too many farmers increase production on the basis of the outlook, prices will be lower than initially expected. Consideration of these many interrelated factors makes prediction of the future a complex task and one in which trained outlook analysts can greatly assist farmers.

## Use of Outlook in Farm Decision-Making

H. R. Jensen and K. H. Thomas

Our purpose in this article is to discuss the role of outlook information in farm production—why farmers need this information, how its value is realized, and how they can use it in making decisions.

#### Why Farmers Need Outlook Information

For best adjustment, farm operators must know what their situation is likely to be in some future time period and how that situation depends on the action they take now. At the beginning of each production period, plans and decisions must be made on how land, labor, and capital in various forms are to be used in production. At the time these resources are committed, future outcomes are uncertain because (1) production takes time; (2) prices, yields, production techniques, governmental policies, and even people with whom we deal change through time; and (3) future changes and outcomes can only be estimated within a probable range. In brief, these are the conditions under which a farmer must plan, decide, and act.

But he must also face the responsibilities for action taken. If, for example, he plans for high prices and income, spends or borrows accordingly, and then low prices occur, he must bear the consequence of his error. Thus he may "go broke" or reduce severely his family living level. It is unfavorable outcomes like these that make management a sobering task.

We can say then that the farmer needs reliable outlook information because he must plan and decide with incomplete knowledge of the future, and hence his plans and decisions are subject to error. Outlook can reduce these errors and consequently the number and size of unfavorable outcomes.

#### How Outlook Information Reduces Errors in Plans and Decisions

By using reliable outlook information, most farmers increase accuracy in observation and estimates of the future. The value of this increased accuracy can be realized in at least two ways.

One way is by reducing the chance of making a mistake. For example, on the basis of his own observations a farmer may decide to sell his corn through hogs. But reliable outlook information suggests that the chance for making money on hogs is very slim, but that a fair to good chance exists

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### MINNESOTA

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Prepared by the Department of Agricultural Economics and Agricultural Extension Service.

Published by the University of Minnesota Agricultural Extension Service, Institute of Agriculture, St. Paul 1, Minnesota.

for making money by direct sale of corn. Since the outlook information is likely to be more accurate than the farmer's own observation, the farmer reduces his chances of making a mistake by planning and deciding according to outlook.

A second way in which the value of increased accuracy can be realized is by decreasing the size or consequence of a possible mistake. To illustrate, a farmer on the basis of his own observations or guesses plans to sell all his hogs at one time in the month of August. But outlook information points with considerable certainty to highly fluctuating hog prices in August and September and therefore advises farmers to spread their marketings over this period.

Again since outlook information is likely to be more accurate than the farmer's own observations, the farmer can reduce the size or consequence of a possible mistake by gearing his marketing plans to outlook.

If under these conditions of highly fluctuating hog prices, a farmer goes ahead and sells all his hogs at one time and receives a low price (his mistake) he may incur a heavy loss. But, if he sells some at a low price and others later at a high price, he either reduces the size of his loss or eliminates it entirely.

Under these conditions some farmers may, of course, still prefer to sell all their hogs at one time and take the long chance of hitting a high price. If the long chance does occur, the outcomes, of course, would be highly favorable. But our concern here is more one of indicating how use of outlook can reduce errors in plans and decisions and thereby decrease the number and size of unfavorable outcomes.

We have indicated that a farmer can go ahead and make his own observations and estimates of the future—without the assistance of outlook information. However, since he neither has the time nor the resources to do this job, the chances for large errors between his estimates, expectations, and plans on the one hand and his outcomes on the other are likely to be high. A reliable outlook analyst, on the other hand, has both training and resources to gather the necessary information and analyze it to explain what is likely to happen; he can do this with less error than can the untrained person without the necessary time and resources.

Even the information furnished by the trained outlook analyst isn't fool-proof. No one can know the future without error. But the important point

here is not that outlook information may have some error. Rather the important point is:

*That outlook information provided by trained analysts is likely to have less error than the observations and estimates of the future constructed by anyone not having access to the information nor the training necessary to analyze and interpret it.*

#### Putting Outlook Information to Use

To put outlook information to use, a farmer must first study and learn what the outlook is. Second, to take full advantage of his study and learning requires flexibility in his plans and production plant so that he can shift his labor, land, and other resources to correspond with expected changes in prices and costs. Moreover, he will soon discover that outlook information is more complete for some types of decisions than it is for others. Generally, it is geared as a guide for making short-run decisions.

#### Use of Outlook for Short-Run Decisions

For many short-run plans and decisions in farm production, outlook information is basic for increasing accuracy of plans and estimates of the future. For instance, timing of production decisions can be improved through use of outlook information on seasonal and cyclic price and production patterns and on expected changes in them.

Similarly, through observation and analysis of the feed supply situation, livestock numbers, marketings, and other variables, the profit prospects in hogs, poultry, feeder cattle, and other enterprises can be predicted. This information is basic for reducing errors in plans and decisions on whether to produce a commodity in a given year or whether to expand or contract.

Moreover, outlook information on expected level of farm income in the year ahead can help reduce errors in

spending of income for consumption, for purchase of capital inputs, and for annual production expenditures. Reducing errors here helps to assure that sufficient returns will be available to meet debt and other fixed commitments.

#### Use of Outlook for Long-Run Decisions

But farmers must make long-run, as well as short-run decisions. When they decide to invest in land, buildings, beef and dairy cows, and machinery and equipment, they pay for the services that these inputs provide not only in the year ahead but in succeeding years. Thus, they are concerned over whether such investments can be expected to pay for themselves or make a profit over the years. Here long-run estimates of the future become important.

Unfortunately, outlook information for use in making long-run decisions is less developed than it is for use in making short-run decisions. Because of the longer time span, the degree of accuracy is somewhat lower. This is not to say, however, that outlook has no value for planning and deciding upon resource use beyond a year. By keeping a weather-eye on what's happening (1) to inventories or supplies; and (2) to demand as reflected through levels of employment, industrial activity, government spending, population changes, disposable income, and exports, outlook analysts can produce some information as a guide to committing resources beyond a year.

In conclusion, in this day of growing complexity and rapid change it becomes increasingly important for a farmer or other decision maker to study, learn about, and understand the changes that make up his decision-making environment. If he doesn't, he will soon find that his decisions and estimated plans for the future are way out of line with what actually occurs.

Cooperative Extension Work in Agriculture and Home Economics, University of Minnesota, Agricultural Extension Service and United States Department of Agriculture Cooperating, Skuli Rutford, Director. Published in furtherance of Agricultural Extension Acts of May 8 and June 30, 1914.

Agricultural Extension Service  
Institute of Agriculture  
University of Minnesota  
St. Paul 1, Minnesota

SKULI RUTFORD, Director  
Cooperative Agricultural Extension Work,  
Acts of May 8 and June 30, 1914  
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