

AN APPRAISAL OF ECONOMIC INFORMATION
PUBLISHED BY SELECTED COLLEGES
FOR AGRICULTURAL READERS

by

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INTRODUCTION

Economics is difficult for the average person to understand. It has earned a reputation as a hard subject. Yet it is of such basic importance that understanding can not be left to the professional economist. The public needs to know.

Economics has been defined as the study of making a living. All economists will not accept this as a complete definition, but it suggests a subject that few persons can afford to ignore.

From the beginning of time, men have been urgently interested in the things that affect their ability to make a living. They have watched society advance and the job of producing and distributing wealth become more complex.

When faced with a complex situation, men usually seek either to "understand" or "escape". Published economic information for agriculture probably fits this pattern. It is current opinion that many farmers do not understand because some economists have lost sight of their objectives in writing.

Relatively few years ago, there was little or no economic information. By now the problem of availability has largely disappeared, but information is ineffective

and may have undesirable consequences when it is not understood by the public it seeks to serve. Much economic information for agricultural readers has been criticized from this standpoint. No matter how reliable it may be, it is of little practical value unless it is read and properly interpreted by the intended reader.

The economist-writer bears a responsibility beyond that of merely making the information available. He needs to make it palatable so that people will want to read it. He must also make it clear so that it will be understood. But it should be noted that economic writing is not easy. It deals with ever-changing forces and conditions which complicate the writing job.

Despite its importance to agriculture, economic writing has been largely ignored by the journalist whose techniques must be employed in successfully completing the information job of the economist.

This study was undertaken to appraise economic information using journalistic techniques and standards.

College agricultural economists are a particularly important link in the chain of economic information to farmers. Their writing receives considerable criticism from the groups they serve.

Few facts to back these general criticisms have been presented by those criticizing. No known studies have been made on readability of economic writing. This appraisal

seeks to approach the problem from the readability standpoint on the grounds that unless writing is reasonably easy to read, the value of the information is restricted.

Land grant college publications were chosen at random to provide a sample of economic writing. A standard readability formula was applied to provide necessary data for evaluation. A practical test of readability principles applied to economic writing gave additional data from which conclusions could be drawn.

CHAPTER I

ECONOMIC INFORMATION SERVES AGRICULTURE

Economic information as we know it today was unheard of little more than a quarter of a century ago. Tremendous gains have been recorded in the last three decades. More and more agricultural readers have gained access to the economic facts necessary to organize and operate their farm business enterprises successfully.

This growth was accompanied by development of both private and public agencies designed to meet the need for information. A constant flow of data is now available to interested readers covering economic research, marketing and outlook, the farm business, and other economic subjects pertaining to agriculture.

With minor exceptions, the supply of economic information available to agricultural readers is adequate. Apparently agricultural economists provide plenty of facts. How well these facts are read and understood is undetermined.

Need for Economic Information

No segment of modern society has a more vital need for understanding economic phenomena and principles than agriculture. Every farmer is a businessman who must deal regularly with the changing economic forces that shape his

destiny.

Many farmers and others in occupations related to agriculture are willing recipients of economic information. They recognize their need for facts to help them organize their businesses, make current production and marketing decisions, and plan for the future.

Agriculture is composed of nearly six million operators, many of them small, but each seeking to accomplish desired objectives with available resources. Economic facts are essential to successful attainment of this goal.

Individual farmers lack both time and inclination to make a thorough study of economic conditions. Even if they had both, they would still lack the necessary training to interpret the developments. Consequently, they must turn to those equipped to do the job for them.

Farming was once relatively simple. It was largely a self-sufficient proposition and farmers produced for a restricted market. Advances in technology have changed all this, and with it the need for information. Technology has brought more efficiency to agriculture, but it has made farming a more complex business.

In the process, the farmer has learned to rely on others for help in effectively organizing and planning his activities. Instead of limiting himself to the local situation, the modern farmer realizes he needs to know what is happening at distant points.

He understands that the forces which shape the economic situation nationally and internationally exert a very real influence on his personal business. He knows that competition requires better management and that intelligent planning is based on reliable information.

Economic information, in its various forms, helps rationalize the farmer's thinking and acting (11, p.363). Instead of losing ground with declining farm numbers, economic information has become even more important.

It would be hard to find a farmer who does not believe that public agencies should supply farmers with the information they need in order to plan their farm businesses and do their buying, selling, and borrowing most effectively.

The need for economic information is therefore unquestioned. Such facts have become a recognized force for better and more efficient farming. This means that society as a whole benefits because all segments of society have a stake in the future of the industry that produces food and fiber.

Development of Agricultural Economic Information in the United States

Historically, economic information for farmers is relatively new. Although it won the attention of a few farmers and government leaders as early as the late eighteenth century, little was accomplished until 1862.

Even this was only a beginning. Major advances were not to come until the first half of the twentieth century.

Appropriately, it was a farmer-president who first considered collection and dissemination of economic facts a worth while aim. George Washington recommended to Congress in 1796 that it consider ways and means of collecting and diffusing agricultural information (2, p.78).

Forty-three years after Washington's initial suggestion, Congress recognized the farmer with an appropriation of \$1,000 "for the collection of agricultural statistics and for other purposes".

In 1862, when Congress was considering the establishment of a Department of Agriculture, as recommended by President Abraham Lincoln, the arguments included the need for dissemination of economic information (3, p.1690).

These congressmen argued, with plenty of opposition, for gathering and disseminating statistics "to hold down rumors, stop fluctuations of prices, and keep farmers from being duped through rumors".

A beginning was made toward collecting statistics related to agriculture when the Department of Agriculture was established in 1862. In 1863 the crop correspondent system was organized. Monthly and bi-monthly reports on crop conditions were published. Regular reports on crop conditions, acreage, yield per acre, and production of important crops and livestock were begun in 1866. By 1908

there were monthly price reports being issued.

But even with these facts available, there were few attempts to interpret and expand upon them for the farmer.

A strong foundation for economic information adapted for farmers was laid when the Bureau of Agricultural Economics was formed in 1922. In part, this was a product of the dreary farm situation in the early 1920's.

After nearly twenty years of relative prosperity, farmers suddenly found themselves facing an economic crisis. The general price level was high, but farm prices had settled back from a wartime peak and farmers were being squeezed by an unfavorable relationship between the prices they paid and the prices they received. Added distress was caused by the high interest and principal payments resulting from the 1919 land boom. Farmers tried to combat the unfavorable price-cost situation by boosting production.

Up to this time, farm programs had been designed to grow two blades of grass where one had grown before. But in learning the lesson of production efficiency, farmers made an old problem more severe -- that of keeping supply in line with demand.

Faced with economic adversity, farm people began to think more about economic conditions. They wondered what made their prices. They took more interest in farm management and marketing. They looked more and more toward land grant institutions and federal agencies for economic facts

upon which they could base their decisions. These sources responded and the period marked the beginning of serious effort to interpret economic facts for the farmer and get them to him in a form he could understand.

In succeeding years, machinery for disseminating economic information was greatly expanded. Farm papers, magazines, and private agencies joined government bureaus and land grant schools in placing more emphasis on interpretation of economic facts. Private agencies began issuing economic data and research in agricultural economics was stepped up. Today, hundreds of irregular and regular publications are published to help keep agricultural readers abreast of economic developments.

Major Divisions of Economic Information

For working purposes, economic information prepared and written for agriculture can be divided into three general divisions. These include reports on economic research, market situation and outlook, and general economic problems. Each plays an important role in keeping farmers appraised of the economic situation and its possible effect on him.

In many instances, specific pieces of economic writing overlap the above categories. Outlook information may be based largely on research. Articles on general economic conditions may touch on most any division of subject

matter. Numerous other cases could be cited, but overlapping is not important. The sole purpose for classification is to provide a basis for describing the general range of economic information available to agricultural readers.

Reports of Research

Economic research is a tremendous force for the improvement of farming and the rural way of life. But unless results of research are made available to the public, new developments are of little practical value. These reports to the public comprise one division of the total supply of published economic information.

Economic research for agriculture is conducted by the Bureau of Agricultural Economics of the United States Department of Agriculture and by land grant colleges. Research outside these agencies is of minor importance.

Problems of regional, national, and international scope are treated by the B.A.E. State colleges usually deal with local conditions.

Reports of economic research generally appear in bulletin or circular form. Subject matter is as varied as the economic difficulties confronting agriculture.

Such facts, collected and analyzed by trained economists, are valuable tools for planning adjustments in production, distribution, or utilization of agricultural products. They form a significant part of the total

supply of economic information available to agricultural readers.

Market Situation and Outlook Information

Market situation and outlook information is the foundation for many current decisions and future plans. Generally it includes the type of information upon which action may be taken.

Since most of the day-by-day economic reporting falls into this category, market data probably rates as the most popular type of economic information. This is true simply because people are more interested in the present than past or future.

Market news reports are issued regularly by the Bureau of Agricultural Economics. Some land grant colleges publish state market reports. Nearly every newspaper, magazine, and radio station carries some mention of the market situation.

Farm outlook, though not so popular as market news, goes out through much the same channels. Basically, outlook is but a continuation of market situation reports. It looks at the future in the light of past and present developments. As a result, the line separating the two types of information is not definite.

Regular outlook and situation reports are among the major economic publications issued by land grant colleges.

National and international outlook is handled through the Bureau of Agricultural Economics.

General Economic Information

General economic information includes both current and non-current reports which do not qualify as research or market situation and outlook. Essentially, it takes in economic writing designed to give the public a better understanding of economic forces.

Some economists believe education in fundamental economic principles to be the first step in a sound information program. They maintain that understanding of all economic information rests on a basic knowledge of principles.

Recognizing that general economic information is just as important as specific facts on markets, outlook, or research, some land grant institutions have increased their output of this type of information.

V. B. Hart (16, p.72) once contended that a greater need existed for supplying farmers with farm management information of a general nature than for any other type. He pointed out that some lags in adjustment of farming practices to changes in economic conditions were not due to the fact that farmers were poor business managers. It is more likely, he stated, that such lags were due to lack of information.

This might have been true several years ago when Hart made his statement, but it is not the case today. Farmers now have access to a wide variety of general economic information, including farm management facts.

Sources of Economic Information for Agriculture

Most economic information originates with professional economists working for the federal government, land-grant colleges, or private fact-collection agencies.

Economic information gets to the public through two major channels -- the written and the spoken word.

Government publications, land grant college publications, private agency publications, newspapers, farm magazines, trade journals, and personal correspondence all fall under the category of the written word.

Personal contacts, meetings, radio, and television belong under the medium of the spoken word.

Obviously, both general categories are important in the over-all picture of economic information. The ideal approach, of course, is individual personal contact. If an economist could sit down with a farmer and talk over a problem, good understanding and decisive action usually would result. Such individual personal contact is impossible, leaving mass circulation of information as the next best approach.

Newspapers and radio, with speed of transmission and a broad audience, are most effective for the dissemination of timely economic facts. Newspapers have the advantage of reference over radio, but radio has a more personal approach. Television relies strongly on the personal touch and the advantage of seeing plus hearing for more complete understanding.

Farm magazines, trade journals, and other non-government or institutional publications are excellent media for making the facts available to the public. They are usually less timely than newspapers and radio and often serve merely as the transmitting medium for the work of government or college economists.

Federal government publications, primarily those of the Bureau of Agricultural Economics, may be classed with land-grant college publications. Both are of the public service type.

These publications are at a disadvantage in distribution, for they reach only a fraction of their potential audience. But they do enjoy certain advantages, including a reputation for being impartial and unbiased.

Land-grant colleges of the nation provide much of the localized economic information for farmers. It is with this segment of the over-all picture that the study is concerned.

In planning an appraisal of economic information

published by land grant institutions, it was recognized that a multitude of approaches could be made. So many factors enter into the collection and distribution of economic facts that the value of the study could be diminished by allowing it to become too general.

This is a report, therefore, on just one part of the over-all information process -- the writing phase. Following chapters constitute an appraisal of writing effectiveness based on readability of certain types of land-grant college economic publications written for agricultural readers.

CHAPTER II

PROBLEMS OF AN ECONOMIST-WRITER

Few persons acquainted with economic subject matter will deny that special problems are encountered by the economist who attempts to interpret economics for the general public. Some of the complications are inherent in the subject matter. They can only be minimized. Others are products of the writers themselves. They can be eliminated.

Proceeding on the assumption that writing for the public is an important function of the college agricultural economist, it was considered worth while to point out some of the difficulties peculiar to economic writing. A number of professional economists were interviewed to obtain background material for this chapter. The author's observations of economic writing techniques provide additional basis for discussion.

Conditions Complicating the
Economist's Writing Job

Subject Matter May Be Intangible

One of the first obstacles in the path of an economist-writer is the general nature of the subject matter with which he must deal. It has been pointed out that economics has earned a reputation as a hard subject. There is definite basis for such a reputation.

In the first place, an economist faced with the task of explaining an economic principle to a lay audience finds he is often dealing with intangibles. The effects of a specific change in the economy may be very real indeed, but to explain those effects in tangible terms requires more than a minimum of thought and effort. For example, it is no easy job to find a simple illustration of the effect of a change in the discount rate by the Federal Reserve System. As a result, it frequently becomes difficult for the economist to get his "writing teeth" into the subject matter. He may be induced to take the easy way out and deal with the problem in a technical manner.

Lack of Public Economic Education

Education in economic principles is lacking as far as the average reader is concerned, reported one economist. Little economics is taught in high schools and none in grade schools. With most readers falling in these educational categories, the problem of making economics understandable is multiplied.

This situation aggravates the normal difficulties encountered by the technical writer in trying to make his subject understandable. As long as the general public does not comprehend the relative importance of factors influencing the economic situation, the writing task of the economist will remain complicated.

Human Behavior is Unpredictable

Some people argue that economics is not a science because it deals with human behavior which cannot be accurately predicted. Any economist who has tried to predict future actions of humans as they affect supply and demand is aware of the pitfalls in such predictions.

As one economist put it, chances are that no matter what the logical course may be, people will not follow it.

L. M. Fraser (12, p.vii) has pointed out the human factors involved. He states: "For economics, unlike physics or biology, is a study of human behavior. It investigates the actions and experiences of men in the market-place and the factory, and it will in the end be judged by its success in explaining these".

Many Dynamic Forces Involved

Unlike most other technical fields, economics deals with dynamic forces which may alter the effects of normal influences on a situation. For example, an unexpected factor such as war may enter the picture to complicate the situation. When an economist explains the probable results of normal influences on agricultural prices he must always be aware of the possibility of unexpected factors moving in to change the outlook. As a result, he considers every angle and his writing becomes more complex and difficult to

follow in the process.

Add to this the fact that the economist probably never is faced with the same situation twice, the problems of explanation are magnified. Economics deals with the problem of time more than most sciences. The economy cannot be induced to "hold still" while the economist explains what is happening. Before his writing reaches the reader, new forces may have altered the entire situation.

Statistical Data are Essential

Statistical or numerical data are a necessary part of the economist's writing equipment. Much of his work can be explained only through numerical comparisons.

Statistics (5, p.1) may be defined as the collection, presentation, analysis, and interpretation of numerical data. This is almost a daily task for the average economist.

He is necessarily interested in statistical data and statistical methods because they are indispensable aids in his understanding of economic problems. Economic science is concerned with the production and distribution of wealth and with all the characteristics and peculiarities of the complicated human and physical organization by which wealth is made available for consumption and for use in further production of wealth. The problems of the economist unavoidably involve numerical magnitudes -- such as output

of wheat, iron, clothing, volume of exports, wages, prices, profits, bank deposits -- which are subject to variation from time to time or between places or among particular cases (6, p.3).

But figures and statistical manipulations are confusing to the general public. Thus, the economist is faced with the problem of stating results of statistical techniques so that they can be understood without losing the value of the statistical method. The conflict that results is one cause of difficulty in economic writing.

Lack of Writing Training

Aside from all technical difficulties, perhaps the most important factor complicating the economist's writing is the general lack of training in writing techniques among professional economists. There is good reason to believe that training in writing should be an integral part of education in economics. Existing writing in the field is ample evidence.

Attitudes of Economists Toward Writing

A major role in determining the approach to economics writing is played by personal attitudes of economists toward the job of writing. Since human behavior is involved, strict classification of attitudes is impossible.

A few are generally prevalent. These include the ideas that writing is a secondary duty, that writing is only a tool to increase professional standing, and that simple writing is not expected of the technical man.

Writing as a Secondary Duty

Too often economists and other technically trained men adopt the attitude that writing is merely to be tolerated as a necessary evil. It is frequently a dreaded task and consequently is avoided as long as possible. This, of course, is a direct throwback to the general lack of training in writing techniques which makes writing a burden.

Such an attitude is harmful to the over-all effectiveness of the economist in accomplishing his job. Writing certainly cannot be characterized as the major function of an economist, but it obviously is a necessary part of his duties. His knowledge and training is of little value unless it is communicated to others.

Writing as a Tool for Professional Advancement

Much can be said about the tendency of economists and other technical personnel to use writing strictly as a tool for gaining professional recognition, rather than for communicating ideas to others. While not improper, such an attitude toward writing should be limited in its application. It is often said that there is a time and place for

everything. This is true of writing for professional recognition.

Some writing should be strictly technical in nature. It should be designed for reading by other economists. When the technical approach is carried over into writing aimed at the general public, the effects are negative.

The key to the problem lies in a simple miscalculation of the reading audience. Writing everything for the same general audience is no different from serving the same food to a large group of people. Neither can be expected to satisfy the entire group.

Economists are inclined to follow the basic human urge to use the language of their profession. They usually manage to talk in layman's terms on most other subjects, but when the discussion turns to economics they revert to technical expressions.

The habit of "speaking professionally" probably is formed by trying to write for persons whose attention is important in gaining a professional reputation. The habit is difficult to break once the pattern is established, even though the need no longer exists. As a result, the technical approach may cloud the full range of writing attempted.

Simple Writing Not Expected of
Technical Personnel

An old time statistician once remarked, "I give 'em the figgers and then I'm done" (31, p.309). It is safe to say that most modern economists don't take quite this attitude, but the tendency is to consider interpretation for the average reader someone else's worry. In other words, some economists are convinced that simple writing is not expected of them because they are highly trained technical personnel.

Unless someone is available to translate difficult economic expressions into terms that the masses can understand, this is not a valid stand. Most economists do not have the services of a person who can do their translating for them.

Basic Conflicts Between Popular
and Technical Approach

Conflicts between popular and technical presentation of economic information are basic in nature. In fact, they are so fundamental that it is doubtful that they can ever be completely resolved.

Although many could be mentioned, the standout problems are the conflicts between generalization and qualification, personalization and lack of personalization, and simplicity and complexity.

Generalization versus Qualification

Some economists have discovered through experience that to generalize indiscriminately concerning economic developments may cause misunderstanding by readers. Others have found that qualification of every statement does not meet with reader approval. This is the most perplexing of all problems in economic writing.

The conflict of methods raises a difficult question. Is it better to take the chance of misleading readers by making positive statements, or should an attempt be made to hedge on every statement to protect professional reputation while possibly confusing the readers?

Economists who write regularly for the public have learned that qualifications lead to involved writing. This, in turn, leads to confusion in the mind of the reader who responds by refusing to expend the study effort required to disentangle the meaning. Positive statements, on the other hand, are easy to comprehend, but they are also easy to misinterpret. Professionally, an economist cannot consider intentionally leaving the slightest opportunity for misunderstanding. Yet, information that is not readable is ineffective.

Personalization versus Lack of Personalization

People like to read about people better than anything else. This is the basis for encouraging more personalization in economic writing.

The "you and me" attitude of personal writing techniques has been adopted by only a small percentage of economists writing for the public. Their success, however, has been almost phenomenal.

The conflict, in this case, is not deep-seated. The problem is merely in educating economist-writers to break away from traditionally impersonal writing and try the human touch.

Most economic writing deals with human activities. This makes personalization a relatively easy job for the writer who resolves to make the attempt.

Simplicity versus Complexity

It has been pointed out that some economists tend to write for their own satisfaction. They try to impress other economists rather than the majority of their readers. The result is technical complexity.

Simplicity is basic to understanding. Main issues often are submerged in unnecessary detail because economists are unwilling to eliminate any of the facts. This is especially serious when presenting information for the

average reader whose reading time is limited.

Technical terms are valuable tools in explaining economics to another economist, but they are out of place in popular presentation. Facts are facts, but when they are cloaked in obscure language, they fail to accomplish their purpose.

CHAPTER III

READABILITY: A TOOL FOR IMPROVING ECONOMIC WRITING

"Unless ye utter by the tongue speech easy to be understood, how shall it be known what is spoken? For ye will be speaking into the air."

--I Corinthians, 14:9

Twenty centuries ago, men recognized the value of straight talk in getting the point across to the listener. With a few minor changes, the wisdom of the old church father who penned the above quotation can be translated into a good text for writers:

"Unless ye write words easy to be understood, how shall it be known what is written? For your writing will not be read."

Development and Application of
Readability Principles

New developments in agriculture sometimes fail, not because farmers don't take advice, but because they don't understand the advice that is given (2, p.78). Part of the failure to understand can be blamed on ineffective writing.

Readability ideas do not interfere with general writing objectives. When applied, readability principles simply insure that the facts will be better understood by more people.

Writing is considered an art. But when its purpose is to inform, it becomes more nearly a science. The readability formula developed by Dr. Rudolf Flesch, and used in this appraisal, is a scientific approach to the problem of ineffective writing.

History of Readability

Over the years, many scholars have tried to find ways of measuring the effectiveness of writing style with respect to readability. Modern methods of readability measurement were unknown outside a limited group of educators as late as 1944.

Early readability formulas were too complicated. Testers found it took longer to test for readability than it did to compose the written passage. As a result they were not used.

Later formulas showed that two-factor formulas based on sentence length and word load were as reliable as the more complicated types and much easier to use. One of these was the Flesch formula.

Most dictionaries define "readable" as "easy or interesting to read". Robert Gunning, a readability specialist, defines "readability" as "the science of clear statement". It deals with the relationship between writing style and ease of comprehension.

The aim of readability research has been to single out

those factors of writing style that can be measured and find out to what degree each affects reading difficulty (15, p.30).

Dr. Flesch is credited with giving readability its hardest push. He published his first formula for the prediction of readability in 1943. It was revised in 1948 to correct weaknesses and make it simpler. He also separated it into two divisions -- reading ease and human interest.

He was the first to attempt to measure readability of writing directed at people with all levels of reading ability. Previous work had been aimed mostly at children and adults of limited ability (23, p.21).

Alberta S. Galinsky (13, p.261), in 1948, made a scientific appraisal of the Flesch formula. She concluded that the Flesch formula is a highly valid index of readability.

Part of the popularity of the Flesch system is due to its simplicity. The reading ease score is based on sentence length and word complexity. Human interest score is determined by personal words and personal sentences.

Limitations of Readability Formulas

Like all good inventions, readability formulas can result in harm if misused. They are handy statistical tools for measuring complexity in prose. They are useful in determining whether writing is keyed to the desired

audience. But they are not formulas for writing (15, p.29).

Writing remains basically an art governed by many principles. By no means can all factors which influence interest or clarity be measured objectively. There should be a distinction between readability testing and readability analysis (15, p.30). Testing consists of scoring reading difficulty and interest by a formula. It deals with style factors that can be measured. Analysis, on the other hand, combines testing with judgment on principles that cannot be measured by formula.

Dr. Flesch says of his own formula that it cannot itself produce a readable style. Several factors of readability are not measured by his formula. They include clarity of expression and relationship of ideas within the context.

Gray and Leary (14, p.14), in a systematic summary of all factors bearing on readability, concluded that content, format, organization and style are the major divisions. Content was rated most important by librarians, publishers and leaders in education. There is no formula for measuring content. Style, the division covered by the Flesch formula, was rated second in importance by the same group of evaluators. No attempt has been made to measure either format or organization by formula.

These facts indicate that the Flesch formula is not a

valid basis for predicting over-all readability, but should be limited to style in writing (18, p.348). Low readability scores are a warning of reading difficulty and a check on whether writing is geared to the capacities of prospective readers. But good scores are not a guarantee of good writing.

Use of Readability Today

Acid test of readability is its use in the business world. When business executives are willing to spend money on readability, the field can be said to have arrived.

In addition to newspapers, magazines, and publishing houses, whose stock in trade is the written word, such firms as General Motors, the Borden Company, Swift and Company, Baltimore and Ohio Railroad, Allis-Chalmers, Quaker Oats Company, and the Bank of Canada have used readability and paid for it (23, p.45).

For these organizations, the role of readability is very indirect. For an agricultural economist faced with the task of explaining his work to the public, the role is more tangible.

Increased use of readability principles by economist-writers should result in wider readership of economic material. Tests by Wallace's Farmer and Iowa Homestead magazine indicate it is worth the effort. This publication found it got about 18 per cent more readership by using a

more readable style based on the Flesch system.

Another Iowa test (29, p.343) found that an article averaging 131 syllables per 100 words had a mean paragraph readership 83 per cent higher than a more difficult version of the same article which had an average of 173 syllables per 100 words.

Importance of Audience in Readability Testing

Readability concepts are linked with composition of reading audience. Flesch readability scores are keyed to the estimated educational level of readers. The usual measurement is number of school grades completed, based on United States census reports.

Principal criticism of this method comes from the fact that adult education does not stop when a person leaves school. Though a person may not advance beyond the sixth grade in school, he may become relatively well educated. In other words, self-education is not taken into consideration in readability measurements. Despite this, however, school grades completed is the best available measure of probably reading ability. It is admittedly only a rough estimate.

Flesch bases his estimate of reading ability on grades completed by all adults in the United States. This is shown in Table 1. Similar figures for United States farm

population 25 years old and over are shown in Table 2.

Comparison of the two indicates that the level of farm education is somewhat below that of the total population. Since readability estimates, at best, are only approximate, the difference may be largely disregarded.

United States census figures for 1950 were not completed at the time of this writing, so figures for 1940 were used. These data show that, in 1940, the median number of school grades completed by the adult farm population in the United States was 8.2 grades.

This figure undoubtedly has increased in the 12 years since the 1940 census. But even a substantial increase would still leave the educational level of farm population below the estimated readability level of much economic information written for farmers.

Flesch explains that typical readers do not extend themselves. The result is that the typical reader prefers to read material written for a group below his own educational standing. This means that, even allowing for an increase in median school grades completed by farm people since 1940, the majority of farmers read most comfortably somewhere between the seventh and eighth grade level.

This preference is not limited to persons in the lower educational divisions. Amy Cowing (4, p.31) says many highly educated persons prefer a simple direct style because it saves so much time in reading.

Table 1

COMPARISON OF FLESCH READING EASE SCORES WITH
ESTIMATED EDUCATIONAL LEVEL OF
ADULT AUDIENCE

Reading Ease Score	Estimated School Grades Completed	Estimated Per Cent of U.S. Adults Completing
90 to 100	4th grade	93
80 to 90	5th grade	91
70 to 80	6th grade	88
60 to 70	7th or 8th grade	83
50 to 60	Some high school	54
30 to 50	High school or some college	33
10 to 30	College	4.5

Table 2

SCHOOL GRADES COMPLETED BY U.S. FARM ADULTS
TWENTY-FIVE YEARS AND OLDER, ACCORDING
TO THE 1940 UNITED STATES CENSUS

School Grades Completed	Per Cent U.S. Farm Adults Completing	Cumulative Per Cent U.S. Farm Adults Completing
No school	4.7	--
Grades 1 to 4	15.7	93
Grades 5 and 6	15.5	78.3
Grades 7 and 8	38.7	62.8
High school, 1 to 3 years	11.8	24.1
High school, 4 years	7.6	12.3
College, 1 to 3 years	3.4	4.7
College, 4 or more years	1.3	1.3
Not reported	1.3	--

On the other hand, some studies have shown that persons with limited education are not anxious to read. Holmes (17, p.40), in a study of agricultural outlook information in Iowa, found that farmers who obtained and used outlook information had a higher average educational level than those who did not. He concluded that farmers with more education are more likely to seek outlook data than those with limited formal schooling.

Unless material is written to fit the abilities of readers, the unskilled reader is likely to spend so much time concentrating on the process of reading that he cannot become completely engaged with the meaning of what he reads. He becomes like the person learning a foreign language, who must pay so much attention to translation that he can give little attention to what he reads as literature.

College agricultural economists are in the business of distributing public information. They must, therefore, be aware of the abilities of their audience and make every effort to translate for the reader so that he is relieved of the job.

Mechanics of the Flesch Formula

Use of the Flesch formula for predicting readability is almost a mechanic process. To estimate readability, including both reading ease and human interest, the following steps are necessary:

Select Samples

Enough samples to constitute a fair test must be used. Three to five are sufficient for most publications of pamphlet length. Samples should be chosen by a numerical system to eliminate bias in the selection. Length of samples should be 100 words each.

Count Syllables

Syllables in each 100-word sample must be counted and an average of all samples taken to arrive at the average number of syllables per 100 words. Some allowance should be made for samples containing several long figures which increase the syllable count out of proportion to reading difficulty. This is done by eliminating all but two or three of the figures and adding a corresponding number of words to the sample.

Compute Average Sentence Length

Average sentence length is calculated by counting the number of sentences in the sample and dividing by the total number of words in the sentences. The sentence ending nearest the 100-word mark of the sample is the last included in the calculation.

Count Personal Words

Personal words must be counted for each sample. They include all first, second, and third person pronouns except neuter pronouns that do not refer to persons. All words that have masculine or feminine natural gender also are considered personal words, as are the group words people, folks, and family. Common gender words are not included.

Count Personal Sentences

The number of personal sentences per 100 sentences must be figured. A personal sentence is a spoken sentence set off by quotation marks; a sentence addressed directly to the reader in the form of a question, command, or request; an exclamation; or a grammatically incomplete sentence whose full meaning must be inferred from the context.

Calculate Reading Ease Score

By substituting the number of syllables per 100 words (wl) and the average sentence length (sl) in the following formula, the reading ease score is calculated:

$$\text{Reading Ease} = 206.835 - (.846 \text{ } \underline{wl} + 1.015 \text{ } \underline{sl})$$

The reading ease score will indicate the position of the piece of writing on the readability scale which ranges from zero (practically unreadable) to 100 (easy for any literate person). See Table 3.

Table 3

FLESCH READING EASE QUICK REFERENCE TABLE

Reading Ease Score	Average Words Per Sentence	Average No. Syllables Per 100 Words	Description of Style
90 to 100	8 or less	123 or less	Very easy
80 to 90	11	131	Easy
70 to 80	14	139	Fairly easy
60 to 70	17	147	Standard
50 to 60	21	155	Fairly difficult
30 to 50	25	167	Difficult
0 to 30	29 or more	192 or more	Very difficult

Calculate Human Interest Score

Human interest score is figured by substituting the number of personal words per 100 words (pw) and the number of personal sentences (ps) per 100 sentences in the following formula:

$$\text{Human Interest} = 3.635 \text{ pw} + .314 \text{ ps}$$

The human interest score places the piece of writing on a scale between zero (no human interest) and 100 (full of human interest). See Table 4.

Table 4

FLESCH HUMAN INTEREST QUICK REFERENCE TABLE

Human Interest Score	Per Cent Personal Words	Per Cent Personal Sentences	Description of Style
60 to 100	17 or more	58 or more	Dramatic
40 to 60	10	43	Highly interesting
20 to 40	7	15	Interesting
10 to 20	4	5	Mildly interesting
0 to 10	2 or less	0	Dull

CHAPTER IV

READABILITY TESTS OF ECONOMIC WRITING
PUBLISHED BY SELECTED COLLEGES
FOR AGRICULTURAL READERS

"When a thought is too weak to
support a simple expression,
reject it."

--Vauvenargues

Economic writing could be appraised in a variety of ways. One of the most practical approaches is a study of readability. Other characteristics and factors are important to an effective writing job, but readability is basic.

Readability tests based on the Flesch formula are the foundation of this appraisal. The Flesch test has been shown to be a valid tool for making such an appraisal.

General Procedure

Because economic information for agricultural readers is published in so many forms by so many sources, the scope of the appraisal was necessarily limited. The importance of land grant institutions as a source of economic information for agriculture is undisputed. Observations and tests have been limited to publications originating from this source. It is believed safe to assume that writing in these publications does not differ greatly from that in other sources of economic information for agriculture.

Publications were first classified either as irregular or regular, based on frequency of issue. Irregular publications include bulletins and circulars published by extension services and experiment stations associated with land grant institutions. Regular publications generally were published by extension services and included information on outlook, agricultural situation, and general economic topics.

Selection of Irregular Publications

Irregular publications were so numerous and varied in subject matter that it was considered impractical to make anything other than a random selection. Twenty bulletins and circulars were selected at random from a large supply of recent economic publications. No attempt was made to segregate extension and experiment station publications. Only criteria for selection were that they be irregular in nature, be a publication of a land grant institution, and be economic in subject matter. Some consideration was given to number and distribution of institutions represented. Resulting selections were from 13 different institutions located in widely separated sections of the nation. This was believed to be a fully representative sample of the general run of irregular economic publications put out by colleges.

Specifically, institutions represented include Oregon

State College, University of Idaho, Washington State College, North Dakota Agricultural College, Montana State College, University of Connecticut, Purdue University, University of Kentucky, University of Florida, Utah State Agricultural College, University of Nebraska, University of Illinois, and University of New Hampshire. See Appendix A for list of specific publications.

Selection of Regular Publications

A smaller number and range of regular economic publications for agricultural readers made possible a more selective sample for this phase of the appraisal. Most land grant institutions publish economic material for agricultural readers regularly. A general survey of these publications fall into three rather general categories, including outlook briefs, detailed outlook summaries, and general magazine-type publications.

Choice of regular publications for the readability sample was based on the above classification. Two publications judged typical of each class were selected for testing. Tests were based on six consecutive issues of each regular publication, all published during the last half of 1951.

Iowa State College and Washington State College publications were chosen as typical of the outlook brief type. Ohio State University and Oregon State College

publications were selected to represent the detailed outlook summary category. Michigan State College and Purdue University publications represent the general magazine-type economic classification.

Outlook briefs were typically short, to-the-point, and limited in scope. Generalizations were frequent, with a minimum of detail and qualification.

Detailed outlook summaries followed a basic pattern, including a general summary of the agricultural situation followed by detailed outlook information for specific crops. This was probably the most common type published.

General magazine-type publications were dominated by information articles based on subjects of current economic interest to agricultural readers. Outlook information appeared regularly in some, but was generally relegated to a secondary position.

Choice of One Hundred Word Samples

A fair test of readability is possible by using regularly spaced samples of 100 words each, according to the Flesch system. Five of these samples was considered a sufficient number to provide a good test for each publication.

Samples were selected by a numerical system which allowed each paragraph of the publication equal opportunity to appear in the test. Paragraphs were counted for each

publication. The total number was divided by five, the number of samples. The resulting answer was used to space samples equally throughout the publication.

For example, if a publication had 55 total paragraphs, spacing of samples would be every eleventh paragraph. Numbers from one to eleven would be placed in a container and one drawn out to determine the starting point. If number four were drawn, the 100-word samples would begin with the 4th, 15th, 26th, 37th, and 48th paragraphs of the publication.

Word Length Tests

Word length or complexity was tested by counting syllables in the 100-word samples. An average of the results for five samples was taken to arrive at the word complexity rating for each publication. The average was substituted in the Flesch reading ease formula given in CHAPTER III.

Sentence Length Tests

Average sentence length is the second variable used in the Flesch reading ease formula. This was determined for each sample by counting the number of sentences up to and including the sentence ending nearest the 100 word mark of the sample. This number was divided by the number of words in the sentences to get sentence length. An average

of the five samples in each publication was used to substitute in the Flesch reading ease formula.

Reading Ease Score Computations

Reading ease scores were computed for each publication, using the formula mentioned in CHAPTER III.

Personal Word Counts

Human interest, the second part of the Flesch formula, uses personal words as one variable. These were counted in each sample and an average taken for use in calculating human interest for the publication. Personal words were recorded as percentages.

Personal Sentence Count

Personal sentences, second variable in the human interest formula, were counted for each sample. An average of five samples was used in computing human interest for the publication. Totals were recorded as per cent of personal sentences.

Human Interest Computations

Human interest scores for individual publications were calculated from the formula mentioned in CHAPTER III.

Reading Ease Results

Reading ease scores generally bear out the hypothesis that economic writing for agricultural readers is not geared to the capabilities of the broad reader audience. While they cannot be considered absolutely conclusive, they do provide an indication of some general tendencies in economic writing. See Tables 5 to 11.

Irregular Publications

Reading ease scores for irregular publications were not widely distributed along the scale of reading ease levels. A rather narrow range prevailed, with no publication scoring higher than 60 which is the upper limit of the "fairly difficult" classification. See Table 3. Scores ranged from 54.1 to 26.8. See Table 5. Corresponding educational levels of typical readers able to handle the material comfortably were from "some high school" to "college". See Table 1. This indicates that none of the irregular publications sampled was written simply enough to be easy reading for the average United States farm adult.

Distribution of the 20 publications tested was strongly toward the "difficult" level of reading ease which requires at least a high school education for comprehension.

Table 5

FLESH READING EASE SCORES BASED ON FIVE
ONE HUNDRED WORD SAMPLES IN EACH OF
TWENTY IRREGULAR ECONOMIC PUBLICATIONS
ISSUED BY SELECTED COLLEGES

Publication	Average Words Per Sentence	Average Syllables Per 100 Words	Reading Ease Score
1	20.4	156	54.1
2	22.0	161	48.2
3	19.1	165	47.8
4	18.6	166	47.3
5	22.4	164	45.3
6	12.9	176	44.8
7	18.9	169	44.7
8	18.2	170	44.5
9	23.0	165	43.9
10	17.8	171	43.7
11	16.3	175	42.2
12	18.0	174	41.4
13	15.8	177	41.2
14	18.5	177	38.3
15	27.8	167	37.3
16	18.8	180	35.5
17	20.5	180	34.8
18	20.8	181	32.6
19	29.4	174	29.8
20	28.2	179	26.8
All	20.4	171	41.4

Two of 20 irregular publications, 10 per cent of the total, were in the "very difficult" class with scores below 30. Seventeen of 20, or 85 per cent, rated "difficult" with scores between 30 and 50. Only one publication, representing 5 per cent of the total, scored higher than 50 to earn a "fairly difficult" rating. Average reading ease

for all publications was 41.4.

These figures, when compared with educational levels of farm adults, indicate a strong tendency on the part of economists to write for readers in the upper educational brackets. According to the 1940 census, only 12.3 per cent of the adult farm population had completed high school. Ninety-five per cent of the irregular economic publications tested in this appraisal had reading ease scores calling for a high school education as a requirement for comfortable reading.

Average sentence length varied from 12.9 to 26.4 words. Syllables per 100 words ranged from 156 to 181. Over-all averages for all irregular publications were 20.4 words per sentence and 171 syllables per 100 words.

It will be noted that little direct relationship apparently exists between short sentences and few syllables. The two coincided in only a few publications. The three publications with the shortest average sentence lengths had syllable counts of 175 or more. The three publications exhibiting the lowest syllable counts had average sentence lengths of 20 words or more.

This indicates that, to improve the reading ease score, both sentence length and word complexity must be given attention. In other words, short sentences do not necessarily result in lower syllable counts, or vice versa.

It should be remembered in examining the reading ease

scores of the irregular economic publications that most of them are basically research reports. This means they were published as experiment station bulletins or circulars, written by scientists.

This may account for some of the difficulty, but does not excuse all of it. While research may be more difficult to simplify, there is no subject which cannot be discussed in short sentences. And in most cases, a little extra effort probably would result in reasonably simple terms.

If reading ease scores are an accurate representation of the picture, the results point up a significant inefficiency in economic writing. It is a waste of potential audience.

With 95 per cent of the publications written in a style readable for only slightly more than 12 per cent of the potential readers, the situation bears serious consideration. One cause of audience waste might be the difference of opinion among economists, particularly research men, concerning the makeup of the ultimate audience for results of economic research. Some think research reports should not be slanted for the average reader. Others believe they should be, but are not certain how to go about it.

For the most part, research findings are public information and should be treated as such. The author believes

the research economist who refuses to consider simplification of his results is merely side-stepping the issue. After all accountings are made, it is the average readers whose tax dollars pay for much of the research reported in unreadable style. They are entitled to have the findings presented in understandable form.

Regular Publications

Reading ease scores were generally higher for regular economic publications, with some variation between types. Outlook briefs, representing the short, to-the-point style of economic writing, scored highest of the three types on the reading ease scale. Detailed outlook summaries and magazine-type general economic publications were about even. See Tables 6 to 11.

Over-all reading ease scores for the two series of outlook briefs, including Iowa's "Farm Outlook" and the Washington's "Keeping Up on the Farm Outlook", were 58.8 or "fairly difficult" for the Iowa series and 62.3 or "standard" for the Washington series. See Tables 6 and 7. These were the two highest over-all reading ease scores for regular publications. Both also rated higher than any of the irregular publications.

Major reason for the high readability of outlook briefs is evident in their general style. They are meant to be short, snappy, and to-the-point. This makes short

sentences essential and may have some effect on the word load as well.

The more detailed outlook and situation summaries, typified by Oregon's "Agricultural Situation and Outlook" and Ohio's "Timely Economic Information for Ohio Farmers", fell in the "difficult" and "fairly difficult" classes. The Oregon series had an over-all reading ease score of 52.8 for a "fairly difficult" rating. See Table 8. Ohio's series scored 47.8 in the over-all averages, earning a "difficult" rating. See Table 9. Both were characterized by more detail than the outlook briefs. This naturally presents more opportunities for long sentences and more difficult words. When space requirements are strictly limited, there is little room for unnecessary literary display.

Table 6

FLESCH READING EASE SCORES BASED ON FIVE ONE HUNDRED
WORD SAMPLES IN EACH OF SIX CONSECUTIVE
ISSUES OF IOWA "FARM OUTLOOK"

Publication Date	Average Words Per Sentence	Average Syllables Per 100 Words	Reading Ease Score
May, 1951	14.8	156	59.8
June, 1951	12.6	155	62.2
July, 1951	16.5	165	50.5
August, 1951	17.0	154	59.3
September, 1951	17.3	156	57.3
October, 1951	16.5	152	61.5
All	15.8	156	58.8

Table 7

FLESCH READING EASE SCORES BASED ON FIVE ONE HUNDRED
WORD SAMPLES IN EACH OF SIX CONSECUTIVE ISSUES
OF WASHINGTON'S "KEEPING UP ON
THE FARM OUTLOOK"

Circular Number	Average Words Per Sentence	Average Syllables Per 100 Words	Reading Ease Score
196	14.0	149	66.5
197	15.1	153	62.1
198	17.8	160	53.0
199	16.3	152	61.7
200	14.7	145	69.2
201	16.3	157	57.4
All	15.7	152	62.3

Table 8

FLESCH READING EASE SCORES BASED ON FIVE ONE HUNDRED
WORD SAMPLES IN EACH OF SIX CONSECUTIVE ISSUES OF
"OREGON AGRICULTURAL SITUATION AND OUTLOOK"

Circular Number	Average Words Per Sentence	Average Syllables Per 100 Words	Reading Ease Score
3	17.1	159	54.8
4	15.3	156	59.0
5	17.4	161	52.9
6	14.1	159	58.0
7	19.8	167	45.4
8	17.4	162	52.1
All	16.9	161	54.5

Table 9

FLESCH READING EASE SCORES BASED ON FIVE ONE HUNDRED
WORD SAMPLES IN EACH OF SIX CONSECUTIVE ISSUES OF
"TIMELY ECONOMIC INFORMATION FOR OHIO FARMERS"

Circular Number	Average Words Per Sentence	Average Syllables Per 100 Words	Reading Ease Score
282	20.2	160	50.9
283	25.5	156	49.0
284	21.0	167	44.2
285	16.7	173	43.5
286	19.4	166	46.7
287	17.2	161	53.2
All	20.0	164	47.8

Table 10

FLESCH READING EASE SCORES BASED ON FIVE ONE HUNDRED
WORD SAMPLES IN EACH OF SIX CONSECUTIVE ISSUES
OF "ECONOMIC AND MARKETING INFORMATION
FOR INDIANA FARMERS"

Publication Date	Average Words Per Sentence	Average Syllables Per 100 Words	Reading Ease Score
July, 1951	14.5	158	58.4
August, 1951	16.9	170	45.8
September, 1951	22.6	165	44.3
October, 1951	19.0	176	38.6
November, 1951	17.6	152	60.3
December, 1951	21.8	167	43.4
All	18.7	165	48.3

Table 11

FLESCH READING EASE SCORES BASED ON FIVE ONE HUNDRED
WORD SAMPLES IN EACH OF SIX CONSECUTIVE ISSUES
OF "MICHIGAN FARM ECONOMICS"

Publication Date	Average Words Per Sentence	Average Syllables Per 100 Words	Reading Ease Score
July, 1951	21.4	157	52.2
August, 1951	13.8	163	54.9
September, 1951	20.4	154	55.8
October, 1951	18.3	158	54.6
November, 1951	21.4	165	45.5
December, 1951	22.5	162	46.9
All	19.6	160	51.6

Scores of the general magazine-type economic publications also were in the "fairly difficult" to "difficult" range. "Economic and Marketing Information for Indiana Farmers" had an over-all reading ease score of 48.3. See Table 10. "Michigan Farm Economics", the second general publication, was in the "fairly difficult" class with an over-all score of 51.6. See Table 11. Some variation due to a larger number of different authors was noted in these publications. This was particularly true of the Indiana series which included individual issues ranging from 60.3 to 38.6 in reading ease scores. Range of distribution from issue to issue is likely to be smaller when the same author writes all or most of the material.

Seven of 36 issues tested were rated "standard" for reading ease. This means they scored above 60, which should be the level of economic writing for the general agricultural public. See Table 3. Highest reading ease score for all issues was 69.2 for circular 200 in the Washington series. Poorest score was 38.6 for the October issue of the Indiana series.

Average sentence lengths for the six series ranged from 20.4 words for the Ohio series to 15.7 words for the Washington series. Average syllable counts per 100 words varied from 165 for the Indiana series to 152 for the Washington series.

Of the 36 issues tested, seven or 19.4 per cent,

rated "standard". Eighteen issues, exactly 50 per cent, were in the "fairly difficult" range. The remainder, 11 issues representing 30.6 per cent, scored "difficult". If the sample is typical of regular economic publications, less than 20 per cent of the writing in regular economic publications is suited for comfortable reading by the average United States farm adult. Fifty per cent is written for persons with at least a high school education, a level reached by only about 12 per cent of the nation's farm adults in 1940. See Table 2. Another 30 per cent is written for college educated persons which number fewer than 5 per cent of the total farm population.

Human Interest Results

Purpose of testing and emphasizing human interest qualities in economic writing sometimes escape the professional economist who has written from the impersonal viewpoint so long that it has become habit. Actually, the reason for emphasis on personal approach is simple. It has been effectively stated by Sidney Smith (10, p.139) who declared: "Everything which is written is meant either to please or to instruct. This second object is difficult to effect without attending to the first". In other words, a reader nearly always gets more out of something he enjoys.

Flesch human interest tests clearly brought out the fact that few economists make an earnest attempt to

personalize their writing. See Tables 12 to 18. Personalization and human interest are interchangeable terms. Despite the fact that agricultural economists seek to reach the same readers who are captivated by the personal approach of fiction, biography, and other stories of human activities, few have thought personalization worthy of effort. This is true even though the subject matter can usually be adapted to at least a mild degree of personalization because human activities motivate nearly every economic movement.

Irregular Publications

Human interest tests of the 20 irregular publications used in the sample were not difficult to make. There simply wasn't much human interest material to be found.

None of the irregular publications rated above the "dull" classification. This means all human interest scores were below 10. See Table 4. Ten per cent of the irregular publications were completely lacking in human interest. That is, they scored zero on the human interest scale.

Range of scores was from 8.7 to zero with the over-all average for 20 publications being 3.44. See Table 12.

Only four of 20 publications had any personal sentences. At least, none occurred in the 100-word samples used in the test. Highest percentage of personal sentences

was 12.5 per cent and the over-all average for 20 publications was 1.63. This indicates a reluctance on the part of authors to direct their statements to the reader or to use dialogue as a means of illustrating a point.

Personal words -- those referring to humans -- were found in 18 of 20 publications but only 6 of 20 had more than one personal word per 100 words. The frequency of occurrence ranged from 2.4 words per 100 words to none. Average for all publications was .81 words per 100 words.

Most of the personal sentences were in the form of questions asked of the reader or commands directed at the reader. These, of course, are the simplest forms of personal sentences and require less facility in writing than dialogue or other quotation forms.

In general, it may be said that human interest scores for the entire group of irregular publications were so low as to be insignificant as an interest-getting factor. Few readers would be attracted by the human touch in these publications.

Table 12

FLESCH HUMAN INTEREST SCORES BASED ON FIVE ONE HUNDRED
WORD SAMPLES IN EACH OF TWENTY IRREGULAR ECONOMIC
PUBLICATIONS ISSUED BY SELECTED COLLEGES

Publication	Per Cent of Personal Words	Per Cent of Personal Sentences	Human Interest Score
1	2.4	0	8.7
2	1.2	12.5	8.3
3	1.2	12.0	8.1
4	2.0	0	7.3
5	0.4	4.5	4.8
6	0.8	3.6	4.5
7	1.2	0	4.4
8	1.2	0	4.4
9	0.8	0	2.9
10	0.8	0	2.9
11	0.8	0	2.9
12	0.8	0	2.9
13	0.8	0	2.9
14	0.6	0	2.2
15	0.4	0	1.4
16	0.4	0	1.4
17	0.2	0	0.7
18	0.2	0	0.7
19	0	0	0
20	0	0	0
<hr/>			
All	0.81	1.63	3.44

Regular Publications

Human interest was generally poor in the series of regular economic publications included in the appraisal, although some improvement over irregular publications was noted.

Six institutions were represented by a series of six

consecutive issues of each institution's regular agricultural economics publication. The over-all average for all regular publications tested was 6.5, midway in the "dull" classification. See Table 4.

Only one of the six series scored better than "dull". This was the Indiana group which had an average human interest score of 11.7, rating as "mildly interesting". The remaining five series scored 8.6, 6.0, 4.7, 4.5, and 3.6. See Tables 13 to 18.

Highest frequency of personal sentences for a six-issue series was found in the Michigan group which averaged 9.9 per cent. Lowest personal sentence count was in the Washington series which had only .5 per cent. Frequency of personal words ranged from 2.8 per 100 words in the Indiana series to .87 per 100 words in the Oregon series.

Considering the publications as 36 single issues, it was noted that 6 of 36 issues, or 16.67 per cent, scored above 10 in human interest. On the other side of the picture, 21 of 36 issues, or 58.3 per cent, scored lower than 5 in human interest.

Taking the regular publications as types, it was apparent that general magazine-type economic publications are leaders in the human interest field. Indiana and Michigan publications had the two highest over-all series averages and included 4 of the 6 single issues scoring higher than "dull".

Table 13

FLESCH HUMAN INTEREST SCORES BASED ON FIVE ONE HUNDRED
WORD SAMPLES IN EACH OF SIX CONSECUTIVE ISSUES
OF IOWA "FARM OUTLOOK"

Publication Date	Per Cent of Personal Words	Per Cent of Personal Sentences	Human Interest Score
May, 1951	1.2	0	4.4
June, 1951	0.8	5.1	4.5
July, 1951	1.0	0	3.6
August, 1951	1.6	10.0	8.9
September, 1951	0.6	3.2	3.2
October, 1951	0.8	0	2.9
All	1.0	3.5	4.7

Table 14

FLESCH HUMAN INTEREST SCORES BASED ON FIVE ONE HUNDRED
WORD SAMPLES IN EACH OF SIX CONSECUTIVE ISSUES OF
WASHINGTON'S "KEEPING UP ON THE FARM OUTLOOK"

Circular Number	Per Cent Personal Words	Per Cent Personal Sentences	Human Interest Score
196	0.8	0	2.9
197	0.6	0	2.2
198	2.2	0	8.0
199	1.0	3.0	4.6
200	1.2	0	4.4
201	1.6	0	5.8
All	1.2	.50	4.5

Table 15

FLESCH HUMAN INTEREST SCORES BASED ON FIVE ONE HUNDRED
WORD SAMPLES IN EACH OF SIX CONSECUTIVE ISSUES OF
"OREGON AGRICULTURAL SITUATION AND OUTLOOK"

Circular Number (1951)	Per Cent Personal Words	Per Cent Personal Sentences	Human Interest Score
3	0.4	0	1.4
4	0	0	0
5	0.2	0	0.7
6	2.4	8.0	11.5
7	1.0	0	3.6
8	1.2	0	4.4
All87	1.3	3.6

Table 16

FLESCH HUMAN INTEREST SCORES BASED ON FIVE ONE HUNDRED
WORD SAMPLES IN EACH OF SIX CONSECUTIVE ISSUES OF
"TIMELY ECONOMIC INFORMATION FOR
OHIO FARMERS"

Circular Number	Per Cent Personal Words	Per Cent Personal Sentences	Human Interest Score
282	0.4	0	1.4
283	0.6	4.3	3.5
284	1.8	0	6.5
285	2.2	0	8.0
286	0.8	0	2.9
287	4.0	0	14.5
All	1.6	.72	6.0

Table 17

FLESCH HUMAN INTEREST SCORES BASED ON FIVE ONE HUNDRED
WORD SAMPLES IN EACH OF SIX CONSECUTIVE ISSUES OF
"ECONOMIC AND MARKETING INFORMATION
FOR INDIANA FARMERS"

Publication Date	Per Cent Personal Words	Per Cent Personal Sentences	Human Interest Score
July, 1951	2.0	0	7.3
August, 1951	3.6	21.0	19.6
September, 1951	0.8	4.3	4.9
October, 1951	1.3	0	4.7
November, 1951	7.0	0	25.4
December, 1951	1.8	4.0	8.4
All	2.8	4.9	11.7

Table 18

FLESCH HUMAN INTEREST SCORES BASED ON FIVE ONE HUNDRED
WORD SAMPLES IN EACH OF SIX CONSECUTIVE ISSUES OF
"MICHIGAN FARM ECONOMICS"

Publication Date	Per Cent Personal Words	Per Cent Personal Sentences	Human Interest Score
July, 1951	1.0	0	3.6
August, 1951	2.8	17.2	15.6
September, 1951	0.6	11.5	5.8
October, 1951	2.8	13.6	15.5
November, 1951	1.6	12.5	9.7
December, 1951	0.4	4.3	2.7
All	1.5	9.9	8.6

Human interest scores for outlook briefs and detailed situation and outlook summaries fell into the same general range. All were grouped near the mid-point of the "dull" classification.

Results indicate that human interest is not closely related to length of publication, since the shortest publications rated among the poorest for human interest.

It will be noted, however, that regular publications tested had a stronger general tendency toward the human interest approach than irregular publications considered. This is probably due in large part to the origin of the material. Most irregular publications are based on scientific research and written by scientists, many of whom avoid personalization. Most regular economic publications originate with extension economists who are more conscious of the need to make the public understand.

CHAPTER V

EFFECT OF WRITING FOR READABILITY ON
READER PREFERENCES

Procedure

Readability tests of economic writing have indicated a need for improvement of reading ease and human interest in economic information, but final judgment lies in the hands of the readers. For this reason, it was decided to conduct a reader preference test to obtain a sample of reader opinion.

Using the Oregon Agricultural Situation and Outlook circular of March 21, 1952 as a vehicle, two versions of an economic article were submitted to rural Oregon readers. A questionnaire accompanied the circular. Readers were asked to check certain preferences and return the questionnaire.

The preference test had a multiple purpose. First, readers were queried on depth of readership as a method of determining whether a better readability score means readers will read more of the article. Second, they were asked to judge the reading difficulty of the test article. Readers also were questioned about their preference between two styles of writing. In addition, readers were asked to state their preferences on use of statistical data in economic information.

Results were expected to clarify the value of readability principles as a tool for improving the usefulness of economic writing. A test on relative comprehension of the material would have been highly desirable as an added measure of the effect of more readable writing. This was not done because a mailed questionnaire was used, eliminating personal interviews which are necessary in comprehension tests.

Selection of Medium

The Oregon Agricultural Situation and Outlook circular was selected as the best available medium for testing reader preferences. It was chosen because of its established position in Oregon as a source of economic information. This made it an excellent means of reaching the general run of rural readers interested in economic information.

Personal interviews are generally regarded as ideal procedure in obtaining reader opinion samples, but high cost of personal contacts made it necessary to use a mailed questionnaire.

Preparation of Test Articles

Working closely with M. D. Thomas, extension agricultural economist at Oregon State College, two versions of an article were prepared with different readability scores.

Both articles were less than 500 words in length. Both covered identical material. Position on the page, heading, and other appearance factors were constant. The only variable was writing style, including word choice, sentence length, and personalization. See Appendices B and C for copies of test articles.

Version A scored 9.9 for reading ease. This placed it in the "very difficult" category, according to the Flesch evaluation. The same story rated "dull" in human interest with a score of zero. Average sentence length of version A was 21.4 words per sentence. Average syllables per 100 words was 217. The article had no personal words and no personal sentences.

Version B scored 76 for reading ease, rating as "fairly easy" on the reading ease scale. Human interest score was 36. This placed it in the "interesting" class. Average sentence length was 13.7 words. Average syllable count per 100 words was 138. The article had 6.5 per cent personal words and 40 per cent personal sentences.

Subject matter, while not of universal interest, was slanted so that it might interest a wide range of farmers. Heading of the article was "Watch U.S. Corn Crop and Increase Profits From Your Feed Grains". This was considered attractive enough to give the article a reasonable chance of being seen by a representative group of readers. See Appendix for content of the two versions of the

article.

Major effort was directed toward shortening sentences and substituting simple words for complex words. Some attempt also was made to inject human interest, although no effort was made to distinguish between the effect of reading ease and human interest in the replies.

A limited number of Oregon Agricultural Situation and Outlook circulars were printed containing the more difficult version A. The remainder of the regular press run of the circulars was printed with the simpler version B inserted.

Design of Questionnaire

The questionnaire to accompany the circulars was designed to make the job of answering as easy as possible for the reader. Most questions were of the yes-no or multiple choice varieties. A few asked for a written statement on the part of the reader.

The entire questionnaire was organized to follow some degree of continuity. Readers first were asked if they had seen the test article. Then they were asked how much of it they had read, and if they had read any part more than once. Following was a question aimed at getting the reader's evaluation of reading ease. Queries concerning preferences for different writing styles represented in the circular were next. Two questions were added concerning

use of figures in economic writing. Finally, readers were asked to state their occupations and their major products, if farmers. See Appendix D for copy of questionnaire.

Selection of Sample

Oregon Agricultural Situation and Outlook circulars are distributed regularly throughout the state. Since Oregon is divided sharply into eastern and western sections, it was deemed advisable to include both areas in the sample. This was accomplished by choosing a Willamette Valley county to represent western Oregon and an eastern Oregon county to represent that section of the state.

Counties were evaluated for general suitability. Those selected were Polk county in western Oregon and Union county in eastern Oregon.

Mailing Procedure

Since distribution of Oregon Agricultural Situation and Outlook circulars normally is made from the offices of county extension agents, it was necessary to adjust mailing procedure for the test.

County extension agents of the two sample counties cooperated by sending the author envelopes addressed to regular recipients of the circular. A letter was prepared to accompany the circular. Letter, questionnaire, circular, and a return envelope were placed in the addressed

envelopes and mailed.

Number of circulars containing version A and version B was evenly divided within each county. One hundred seventy-five Polk county readers received version A and a like number got version B. In Union county, circulars containing each version were sent to 235 readers. Difference in number of readers sampled in the two counties was based on proportion of total circulation.

The accompanying letter instructed readers not to answer the questionnaire until after they had an opportunity to give normal attention to the circular. The questionnaire was placed inside a special unsealed return envelope as an additional precaution against the reader studying the questionnaire before reading the circular.

Results of Test

Reader preference tests are somewhat similar to readability formulas in that they cannot be regarded as anything more than an indication of general tendencies. Results of the reader preference tests made as part of this appraisal are evidence that readers prefer a more readable style.

Questionnaire Return

Reliability of the preference tests was somewhat lessened by an unexpectedly light return of questionnaires.

Fifteen to 30 per cent return was anticipated, but total return barely exceeded 10 per cent of the questionnaires mailed. See Table 19.

One reason for the light return may have been the season at which the questionnaire was mailed. A heavy spring work load might have caused some farmers to lay it aside, intending to answer later, but never getting around to it.

No attempt was made to segregate returns by counties, since it was felt this would serve no useful purpose. Questionnaires were coded before the initial mailing, however, to make it possible to separate them according to the version of the test article seen by the readers.

It will be noted that returns from the group of readers receiving version A were only slightly fewer than from the group receiving version B, the more readable article.

Table 19

RETURN OF QUESTIONNAIRES MAILED TO READERS OF
"OREGON AGRICULTURAL SITUATION AND
OUTLOOK" CIRCULAR

Article	Total Mailed	Total Returned	Per Cent Returned
A	405	40	9.8
B	405	42	10.3
Both	810	82	10.1

Eighty-nine per cent of those returning questionnaires were full-time farmers. Eleven per cent were engaged in part-time farming. Grains, seeds, fruits, and livestock were the major products most frequently mentioned by farmers returning the questionnaire.

The limited number of responses did not permit determination of differences in preferences between part-time and full-time farmers. Had the response been larger, such a comparison might have been valuable.

Even with the limited return, definite reader preferences took shape in the answers. It is believed logical to assume that similar results might be obtained with a larger volume of answers.

Reading Depth Results

There is some conflict of opinion among readability experts over the effect of improved readability on depth of reading. Most studies have indicated that better readability, as measured by the Flesch formula, results in greater depth of reading. Schramm (25, p.305) states that greater stylistic ability of writers encourages greater depth of reading. Ludwig (20, p.168) claims that reader interest can be measured by the amount of reading done. Other studies have indicated that subject matter determines to a large extent whether a reader reads an article.

Replies to the Oregon Agricultural Situation and

Outlook questionnaire demonstrated that a higher readability score does encourage greater depth of reading. See Table 20.

Table 20

DIFFERENCES IN READING DEPTH IN TWO TEST ARTICLES
WITH DIFFERENT FLESCH READABILITY SCORES

Article	Per Cent of Readers Reading				
	All	More than Half	Beginning Only	None	Any Part More Than Once
A	65	22.5	12.5	0	35
B	83.3	11.9	2.4	2.4	31

It will be noted that only 65 per cent of the readers who received article A, the difficult version, read all of it. On the other hand, 83.3 per cent of readers receiving article B, the easy version, read all of it. The difference of 18.3 per cent is a significant point in favor of readability principles.

Similar tendencies were noted throughout the full range of the reading depth scale set up for the test. This indicates that use of readability principles can be expected to promote greater depth of reading.

Reading Ease Preferences

Do readers actually notice a difference in ease of reading when the Flesch readability score is improved? Answers to reading ease judgment questions indicate they do.

Readers of the Oregon Agricultural Situation and Outlook circular were asked to judge the reading ease of the test article, placing it as easy, about average, or hard reading. A marked preference for version B was apparent.

A majority of readers judging version A of the test story classified it as "about average". Most of the readers judging version B of the test story rated it "easy reading". See Table 21.

Table 21

DIFFERENCES IN READING EASE JUDGMENTS BY READERS
OF TEST ARTICLES IN "OREGON AGRICULTURAL
SITUATION AND OUTLOOK" CIRCULAR

Article	Per Cent of Readers Rating Article		
	Easy Reading	About Average	Hard Reading
A	27.5	52.5	20
B	73.1	24.4	2.5

These results point up still further the practical value of readability principles. The preponderance of readers judging version B as "easy reading" might be an indication of better general understanding. In other

words, readers are more likely to rate something "easy" when they feel that they have understood it.

Readers also were asked whether they noticed a difference in style of writing between the test article and other articles in the circular. More than 70 per cent of those reading version B said they noticed a different style and all indicated a preference for the style of the test article.

Only 45 per cent of the readers receiving the difficult version noted a difference in style. This was expected because the style of the difficult test article differed less from the rest of the circular than did the style of the simpler test article.

Sixty-seven per cent of those noting a difference in style between the difficult version and the rest of the circular expressed a preference for the test article style. If accurate, this could offset some of the advantage apparently held by the more readable version. There is some indication, however, that readers may have adjusted their answers to conform to what they believed was desired -- that is, an awareness of style difference.

Most significant figure in this phase of the preference test is the difference between percentages of readers noting variance in style. Twenty-five per cent more detected the difference between the easy version and the rest of the circular.

While not a thoroughly conclusive sample of reader opinion, these figures do suggest that a large segment of the agricultural reading public probably prefers the simple human style of writing created by adherence to Flesch readability principles.

Reader Preferences on Use of Statistical Data

Because numerical data are so much a part of economic writing that they frequently dominate it, readers were asked to state their preferences on volume of use and method of presentation.

The contention of some persons that economists use too many numbers in writing for the public was strengthened by replies to the question on volume of statistical data. Forty-six per cent of those replying said they thought economists generally use too many figures in their writing. About 48 per cent said they believe the volume of figures in economic writing is just about right. Only about 6 per cent thought economists use too few figures.

A second question on use of numerical data was aimed at learning something about reader preferences for various methods of presentation. Readers were asked whether they preferred to see figures in written text, in charts or graphs, or in tables.

The highest percentage, 40.2, expressed a preference

for charts and graphs. Rating next with the readers were numbers worked into the text. Tables rated lowest. A small percentage had no preference. See Table 22.

Table 22

READER PREFERENCES ON METHOD OF PRESENTING
NUMERICAL DATA IN ECONOMIC WRITING

Method of Presentation	Per Cent of Readers Indicating Preference
In Text	36.6
In Tables	18.3
In Charts or Graphs	40.2
No Preference	4.9

Statistical data and statistical techniques are indispensable to economic writing. There is no doubt of that. Reader preference results indicate a need, however, for serious thought about volume and method of presentation in information written for the public.

The ordinary reader usually is not interested in straight tabular material simply because he does not care to take the time necessary to study it. This is borne out by the decided favoritism for textual and graphic presentation over tables. The best approach, according to some studies, is a combination of all methods, with emphasis depending on the material to be presented and the audience for which it is designed.

CHAPTER VI

SUMMARY AND RECOMMENDATIONS

When all pieces of the appraisal are fitted into position, some general conclusions can be developed regarding readability of economic writing published by colleges for agricultural readers. These conclusions, in turn, point the way to a few suggestions for achieving better readability in economic writing.

Obviously there is no simple solution to some of the basic problems inherent in economic writing, but results of the various tests used for this appraisal are evidence of a need for closer attention to this phase of the work of college agricultural economists.

Summary and Conclusions

1. Economic information for farmers and other agricultural readers occupies a position of considerable importance in the over-all agricultural picture. Because of its importance, attention should be paid to readability as a measure of the effectiveness of the information.

2. Certain characteristics of economics complicate the job of writing for the general agricultural public. Intangible subject matter, unpredictable human behavior, and a multitude of dynamic forces operating at cross purposes are prominent among factors which cannot be measured

by readability formulas. Yet they constitute a very real influence on economic writing habits. The author recognized these problems, but believes emphasis on readability principles would help minimize their effect.

3. The author is convinced that the bulk of economic writing by college agricultural economists should be slanted for various segments of the general agricultural public. There is evidence that some information has been misdirected, largely as a result of confused objectives. A re-evaluation of writing aims by college agricultural economists could correct this situation.

4. Economic information published by land grant institutions selected for the appraisal is believed typical of the general range of material written by agricultural economists throughout the nation. Results of tests made on this sample may be applied, in a general way, to most economic writing for agricultural readers in the United States.

5. Flesch reading ease tests of irregular and regular economic publications are evidence that the readability level of the bulk of economic writing for agricultural readers is not consistent with reading ability of the potential reader audience. Results of the tests show that irregular publications, primarily research reports, are too difficult for comfortable reading by the average farm adult. The tendency is less significant in regular

publications, but still constitutes a readability problem. The difficulty is largely the result of sentences that are too long for easy reading and words that are too complex for easy understanding.

6. Flesch human interest tests of both irregular and regular economic publications show a strong tendency on the part of economists to write from the impersonal viewpoint. This is manifested in extremely low human interest scores which indicate that the general run of publications lack any significant reader appeal beyond that inherent in the subject matter. Since human interest is an indirect measure of reading difficulty, the low scores may be regarded as added evidence that most economic writing for agriculture is too difficult for the average reader.

7. Regular economic publications of land grant colleges are generally more readable than irregular publications. This was brought out by reading ease and human interest scores, both of which average higher for regular publications than for irregular publications. One reason may be the fact that authors of regular publications have more interest in and greater opportunity to develop good writing techniques.

8. Value of applying readability techniques to economic information was demonstrated still further by the reader preference test. Readers responding to the questionnaire reported a preference for a writing style

combining short sentences, simple words and a moderate degree of human interest, as compared to a style typical of much current economic writing. Answers to a question asking for a judgment of reading ease of test material indicated that readers notice a difference and react favorably when information is made more readable and interesting.

9. Readers also read more when writing style was designed to facilitate comfortable reading. In practical terms, this means that improved readability not only is likely to attract new readers, but also may cause most readers to read more of what is written.

10. Statistics or figures should be held to a minimum in economic information for the public, according to results of the reader poll. Nearly half of the readers responding thought economists use too many figures.

11. Reader preferences also indicated that figures should be presented in chart or graph form if possible, with textual explanation as second choice. Tables should be simplified and limited in number when used with information for the general public.

Recommendations

Results of the appraisal lead to a few general recommendations which the author believes would improve readability and hence effectiveness of economic writing. Most

of the recommendations apply primarily to information written for general public consumption. With some modification, they are equally acceptable for technical presentation.

Re-evaluate Writing Aims

A definite need exists for a re-evaluation by professional economists of their aims and objectives in writing. Should they be writing for the public, which includes readers with limited education or should audiences be more selective? Answers to such questions would clarify the problem for many economists.

Write to Express, not Impress

When writing for the public, professional reputation motives should be subordinated to expressive writing. In other words, writing to impress other economists is generally not conducive to readability. If simple expression of ideas is kept as the foremost purpose of writing, a good part of the battle against low readability is won. It should be remembered that the only reason for telling the public about economic developments is to enable the reader to make use of the information.

Reduce Modification and Hedging

Economists are noted for their inclination to qualify and hedge. Psychologists say that such devices cause suspension of judgment as to the outcome of the sentence, and therefore increase reading difficulty. The author recommends elimination of all hedging and modification except that which is absolutely needed to convey accurate meaning.

Eliminate Unnecessary Detail

One cause of reading difficulty is submersion of main ideas in a mass of detail. When unnecessary details are eliminated, important ideas stand out clearly. It is always better to make a single point well than to make several points poorly. This can be largely accomplished by cutting out extra wordage. The result is shorter sentences which raise reading ease.

Personalize

When people, rather than inanimate objects, are made the subjects of sentences, reader interest is increased. People like to read about other people. The interested reader nearly always understands better and remembers longer than the disinterested reader. All social studies are studies of human behavior. Economists can write about that behavior in their particular field to advantage.

Substitute Simplicity for Complexity

The simplest language is always best if the ideas are adult. Short sentences that present only one idea are a help. Substitution of the simple word for the complex is another aid. For example, "use" for "utilization" or "equal" for "equivalent" are good word substitutions. Some readers are defeated by their poor vocabularies even before they get to the job of unraveling long sentences.

Give Economists More Training in Writing

One of the most useful recommendations that can be made pertaining to readability of economic information is that economists be given an opportunity to learn to write. For undergraduates, this might take the form of a special course in adapting technical information for the public. For professional economists, a series of seminar discussions, led by a trained writer, might prove helpful.

Educate Reading Audiences in Basic Economic Principles

The average potential reader for economic information has little knowledge of economic principles. If he had such knowledge, the problem of low readability might not be so serious. A long-time educational program in economic fundamentals, starting in high schools, might be an eventual solution.

Inform Economists About the
Value of Readable Writing

Before economic writing can be made more readable, economists must be made aware of the benefits of better readability.

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APPENDICES

APPENDIX A

LIST OF IRREGULAR ECONOMIC PUBLICATIONS TESTED

1. Oregon State College Extension Bulletin 722.
2. Oregon State College Experiment Station Bulletin 504.
3. Oregon State College Experiment Station Circular of Information 497.
4. Oregon State College Experiment Station Circular of Information 504.
5. University of Idaho Experiment Station Bulletin 285.
6. University of Idaho Experiment Station Bulletin 287.
7. Washington State College Experiment Station Circular 158.
8. Washington State College Experiment Station Circular 169.
9. North Dakota Agricultural College Experiment Station Bulletin 367.
10. Montana State College Experiment Station Bulletin 462.
11. University of Connecticut Experiment Station Bulletin 270.
12. Purdue University Experiment Station Circular 376.
13. University of Kentucky Experiment Station Bulletin 568.
14. University of Florida Experiment Station Bulletin 13.
15. Utah State Agricultural College Experiment Station Bulletin 325.
16. University of Nebraska Extension Circular 24.
17. University of New Hampshire Extension Circular 304.
18. University of Kentucky Experiment Station Bulletin 563.
19. Washington State College Experiment Station Popular Bulletin 199.
20. University of Illinois Extension Circular 684.

APPENDIX B

TEST ARTICLE, VERSION A

WATCH U.S. CORN CROP AND INCREASE PROFITS
FROM YOUR FEED GRAINS

Although corn is a relatively minor crop in Oregon, the volume of corn production throughout the nation is of tremendous importance in determining the over-all feed grain market picture. Variations in the size of the corn crop affect corn prices and prices of other feed grains are closely related to them. Last year's corn crop was the smallest in four years, being less than 3 billion bushels.

Developments during the past marketing season indicate that it would have been advisable to delay movement of barley and oats to market instead of selling immediately following harvest operations. It appears that the principal reason operators profited from delaying the marketing of barley and oats was the stimulating effect the limited 1951 corn crop had on prices of other grains. The alert producers of secondary feed grains such as barley and oats have accumulated additional returns through close observation of the situation in corn production. Statistics are available in the August, September, and October crop reports which provide valuable information concerning timing of buying and selling operations with feed grains. Additional factors must be considered, including volume of live-stock being fed, consumption rate of feed grains, significant business activity, and other relevant conditions, but the corn crop is the dominating influence on supply and requires close attention during the fall months.

Conditions affecting grain markets are reported weekly in Grain Market Reviews issued by the Extension Service and are broadcast over KOAC between 7:15 and 7:30 Friday evenings as well as being mailed to other radio stations, newspapers, County Extension Agents, and others who request them.

Apparently the critical figure to consider in relation to the national corn crop this year will be 3-1/3 billion bushels, with a crop in excess of this figure indicative of probably weak market activity with respect to feed grains. A majority of marketing analysts, in this event, would undoubtedly advise early season sale of oats and barley and, by the same reasoning, probably would suggest purchasing feed as the need warrants.

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Should the national corn crop remain below 3-1/3 billion bushels, markets may be expected to hold relatively steady throughout the harvest period and exhibit signs of strength in subsequent months. Farm operators probably would profit in this case by proceeding with caution in completing the sale of feed grains, although the possibility of regulatory ceilings at the parity level must be taken into consideration.

Production of corn is relatively limited in Oregon, but where comparatively high yields are possible it might prove to be a profitable enterprise on farms where a cultivated crop is desired in a rotation plan and the operator maintains livestock to consume it.

APPENDIX C

TEST ARTICLE, VERSION B

WATCH U.S. CORN CROP AND INCREASE PROFITS
FROM YOUR FEED GRAINS

You may not grow corn, but if you buy or sell feed grains you'd better keep your eye on this crop. Oregon's crop is small, but corn is the national feed king. It rules the feed grain markets.

Feed grain prices often go up and down with the size of the nation's corn crop. The 1951 crop was the smallest in four years. When crop reporters finished adding it up, they were a little shy of 3 billion bushels. That's about 20 per cent lower than the record 1948 crop. This is one reason you have found higher prices on feed grains in recent months.

By now you know it was good business to hold barley and oats last fall rather than sell at harvest time. The small corn crop was the big reason the fellows that held their grain profited. Some of them probably kept a sharp eye on the corn crop.

This year you might try that system. Take a look at the August, September, and October crop reports for ideas on when to buy and sell your feed grains. Of course, you'll need to check on other factors too. Numbers of animals being fed, the rate feed grains are being used, business conditions and other things are important. But the corn crop is the big factor on the supply side. It's the most important one to watch during fall months.

Weekly reports on conditions affecting the grain markets are issued by the Extension Service. They're called Grain Market Reviews and are broadcast Friday evenings between 7:15 and 7:30 over KOAC. In case you don't hear KOAC broadcasts, listen to your local radio station, look at your newspaper or check with your County Extension Agent. Most of them receive copies of Grain Market Reviews by mail. Farmers and others can get copies too if they request them.

The critical number to watch on corn this year is 3-1/3 billion bushels, say persons who are supposed to know. They figure you can count on weak and slow markets for feed grains if the crop goes above that figure. If

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this happens, you should sell oats and barley early. Buy your feed as you need it.

If the corn crop falls below 3-1/3 billion bushels, the forecasters predict less than usual market decline at harvest time. They also would expect a stronger market during the last half of the year. In this case, don't be in a hurry to sell, but don't wait too long. Ceilings can go on at parity.

While we're on the subject of corn, let's not forget that it has a place on some Oregon farms. If you need a cultivated crop for rotation and figure you can get a good yield, corn is a good bet. Of course it's better to feed it to livestock than to try to sell it for cash. Think it over. Maybe you'll want to try some this year.

APPENDIX D

READER PREFERENCE QUESTIONNAIRE

Have you read the Oregon Agricultural Situation and Outlook circular as you normally would? If so, you are ready to answer our questions. Please remember that the success of this test depends on getting your frank answers. We're not looking for a pat on the back--just ways to improve economic writing. One more thing--it's important that you give us your answers without referring back to the circular. Just check the answer that applies. You need not sign your name.

1. Did you notice the article in the right hand column of page one of the circular headed "Watch U.S. Corn Crop and Increase Profits from Your Feed Grains"? YES___ NO___
2. If you saw the article, how much of it did you read? ALL___, MORE THAN HALF___, JUST THE BEGINNING___, NONE___.
3. If you read any of the article, did you read any part more than once? YES___, NO___, WHAT PART_____.
4. In general, how would you rate the corn article as to ease of reading? EASY READING___, AVERAGE___, HARD___.
5. Did you notice any particular difference between the way the corn article and other articles were written? YES___, NO___.
6. If so, which way do you prefer? CORN ARTICLE STYLE___, OTHER STYLE___.
7. Briefly, what is the main reason for your preference?
_____.
8. You've probably noticed that many authorities use figures in their writing. On the basis of all of the economic material you normally read, would you say they used: TOO MANY FIGURES___, ABOUT RIGHT___, TOO FEW___.
9. Which way do you prefer to see figures? IN TABLES___, IN CHARTS OR GRAPHS___, OR IN THE TEXT___.
10. Do you have any specific suggestions for improving economic writing?_____.
11. What is your occupation?_____.
12. If you are a farmer, what are your major products?
_____.