Approved Fred Kerr 1/25/84
Date

MINUTES OF THE SENATE COMMITTEE ON AGRICULTURE AND SMALL BUSINESS

The meeting was called to order by Senator Fred Kerr at
Chairperson

10:00 a.m./~~p.m.~~ on Tuesday, January 24, 1984, 19__ in room 423-S of the Capitol.

All members were present except: Senator Ross Doyen (E)

Committee staff present: Raney Gilliland, Research Department

Conferees appearing before the committee:

Dr. Dave Galliart, Deputy Administrator of the
Federal Grain Inspection Service, Washington
Gale Jackson, Chief of Wheat Grading, FGIS, Kansas City

Senator Allen moved the January 23, 1984 minutes be approved, seconded by Senator Gannon. Motion carried.

Senator Kerr stated since there was a problem in classifying Kansas new hard wheats since they have soft wheat characteristics (primarily Arkan). he had called upon the FGIS to present the facts and suggestions as they see them at this time.

Dr. Galliart highlighted information as set out in Attachment 1 presented by K. A. Gilles, FGIS at the Winter Wheat Quality Council in Manhattan on January 19. Dr. Galliart stated before any changes can be made in their standards and classification of wheat it entails much research and study as to the impact. It takes a good deal of time for any major change in FGIS standards. They go before industry a number of times by presenting the analysis and review in the Federal Register, and then there is the proposal stage and public notices and meetings. Since 60% of our wheat is exported, foreign buyers must understand our standards and become familiar with them. FGIS standards are utilized by U. S. industry and those who buy our grain overseas. FGIS is proposing a new classification to be known as "red wheat" as announced on January 13. They have asked for research assistance from the arm of research services of the USDA. They have met several times with KSU. He stated KSU is qualified to find a solution.

Mr. Jackson presented a few slides showing the locations of the five different classes of wheat grown in the U. S. and the visual characteristics of Arkan wheat as compared to others. They have grading as well as milling standards.

In answer to a question, the conferees said that the options currently being considered to address the dilemma are (1) a new classification called "red wheat" and (2) a more intense research on a new, quick hardness testing procedure.

Answering an inquiry by Senator Montgomery, Mr. Jackson stated the California wheat is identified as hard red winter wheat--it came from Mexico and the kernels are long and large.

In response to Senator Karr's question as to how many times they have to identify wheat, it was stated FGIS does not inspect it within the domestic market. In other instances, it is inspected when first loaded from the field; then moved to Kansas City where it could then be again inspected and graded, and perhaps at other locations--there is no set number of inspections. Many mills identify certain areas where they want to buy the wheat and do their own inspecting and grading. Millers in U. S. before unloading a car will run a battery of tests to determine the quality.

(MORE)

At the present time FGIS does not have a suitable solution. They feel 1984 will not be critical but 1985 could be devastating. Senator Kerr asked, "What should we recommend to Kansas producers?"

Dr. Galliart stated they are asking for dialogue only at this time relative to the red wheat classification. He stated it is important to develop a quick method of identifying grades. The method should be rapid, accurate with skills that are available and acceptable by all.

Dr. Galliart said they hope to have some feedback on their notice of January 13 within 60 days, but perhaps it would be the end of the year before the new class is initiated, if it is. He stated "red wheat" would provide the protein quality. It would take some time to make a new class acceptable to the importers since they would look it over very carefully. The marketplace would put a value on it--any change takes time. FGIS is checked by the Board of Reviews.

Dr. Galliart stated they are cooperating with KSU, KGIS and ag research --it is important that all segments of the industry keep involved.

The meeting was adjourned.

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SENATE

AGRICULTURE AND SMALL BUSINESS COMMITTEE

10:00 a.m., Room 423-S

Tuesday, Jan. 24, 1984
Date

NAME	ADDRESS	ORGANIZATION
Steve Swazia	Winfield	Ks School Comm.
Mary Harper	Healy	AAM
Norman Harper	"	"
Dave Wagle	Topeka	Budget
KURT JELTNER	Manhattan	K.St. Univ.
Jamie Ross	Topeka	KSNW-TV
Gary M. Bothwell	Topeka	KSCTD

attach 1 - 1/4/84

FGIS Views--A Breeder's Dilemma

WHEAT CLASSIFICATION

As we consider some aspects of the current plant breeder's dilemma, a brief background statement concerning the philosophy of grain standards and grain grading in the U.S. appears in order. It has been said [1] that no single operation in the grain business, unless it is transportation, is as continuous an activity as grain inspection. It affects every phase of grain merchandising, either directly or indirectly, from the time the producer sells his grain to the country elevator to when the commodity reaches its final destination in the marketing chain. The people of the grain trade have wrestled with grain inspection problems since farmers first started bringing their crops in horse-drawn wagons to Chicago for sale. The importance of proper grain grading was further emphasized in the 1840's and 1850's when the Chicago Board of Trade developed standards for grain weights and grain quality [2]. These events preceded the establishment of the U.S. Department of Agriculture and the Land Grant College System.

Grain inspection, as a facilitator of grain trading, preceded modern plant breeding by several decades. Indeed, the grain industry has witnessed a progression of methods, including the techniques of introduction, selection, backcrossing, and genetics, which were responsible for new varieties of grain in the United States [3].

Presentation by K. A. Gilles, Administrator, Federal Grain Inspection Service, at the Winter Wheat Quality Council, Manhattan, Kansas, January 19, 1984.

Atch. 1

There are major differences in a philosophic approach to plant breeding and to grain inspection. In the United States the plant breeding program has emphasized individual creativity centered at individual State agricultural experiment stations which primarily serve to support the agriculture in that State. The effectiveness of this program has been summarized by Dr. Reitz [4], who pointed out that the popularity of varieties frequently is attributable to the effectiveness of the State agricultural research and cooperative extension service and the associated crop improvement promotional program. Frequently varieties common in one State may not be the prominent varieties in an adjacent State.

The pattern of dominance by the public plant breeders has been challenged by the entries of varieties released by private plant breeders. Certainly one readily would recognize that the changes in plant breeding have been facilitated by the green revolution, including the introduction of semidwarf wheats, daylight insensitive varieties, worldwide sources of germplasm, and the lack of Federal or State regulations or requirements for quality characteristics. These opportunities have led to the creation of cultivars which no longer display appearances typical of each wheat class. Moreover, Dr. Carter conducted a survey and ascertained that the item of least interest to plant breeders in the United States is kernel characteristics [5].

By contrast the United States Grain Standards have evolved as the Federal system of rules developed by the grain trade through research, deliberation and consensus, legally constituted and enforced by a system of Federal inspectors. To minimize intermarket differences, the impartial and unbiased application of these rules is effected with a minimum of individual interpretaion. Further, to assure continuity, the Federal Grain Standards

Act provides a process for amending these rules only after public comment has been solicited and evaluated.

> "It is declared to be the policy of the Congress ... to provide for the establishment of official United States standards for grain, to promote the uniform application thereof by official inspection personnel, to provide for an official inspection system for grain ... with the objectives that grain may be marketed in an orderly and timely manner and that trading in grain may be facilitated. It is hereby found that ... regulation as provided in this Act is necessary to prevent or eliminate burdens on such commerce and to regulate effectively such commerce." [6]

I feel it necessary to bring these comments to your attention as we confront the breeder's dilemma; indeed the breeders have the freedom of opportunity to use their creativity and devise new varieties of grain. However, the license of freedom also carries with it the responsibility that products created potentially should be useful in the marketing system.

When the U.S. Grain Standards for Wheat were first promulgated in 1917, six major classes were provided: Hard Red Spring wheat, Durum, Hard Red Winter, Soft Red Winter, White wheat, and Mixed wheat. At that time the system appeared to present a logical division which met national and regional priorities [7]. As new varieties were developed which possessed kernel shapes and physical characteristics similar to the principal old varieties of each class, no particular problems were presented for the grain inspection system. However, when new varieties resulting from crosses of wheat of distinctly different classes or physical characteristics began to appear, difficulties began [8].

Indeed, the problems began when plant breeders employed diverse germplasm for greater heterosis and increased yields. Concomitantly the technique of backcrossing, which has been used extensively in Canada and in other foreign countries to control kernel and plant characteristics, was

limited in use in the United States. These changes afforded plant breeders opportunities of crossing soft and hard wheats, spring and winter wheats, and triticale and red wheats. The primary objective has been to seek an increase in yield [9].

When a variety does not exhibit consistent homogeneous kernel characteristics, several marketing problems must be considered. The lack of homogeneity makes it virtually impossible for an inspector to characterize wheat, particularly in the commercial marketing system which represents blends of wheat within marketing areas. Since the United States market consumes about 30 percent of the total production, the domestic needs as well as the export needs must be considered.

For the domestic needs, supplies for individual mills can be influenced by annual surveys and careful selection from desirable areas of production. With an abundant supply, the domestic mills usually can meet their needs effectively.

For the export market, which uses 60 percent of the total production, large volumes of grain will move to the major ports through a commingling process which facilitates movement of grain from areas of production through the country elevators, terminal elevators, and export elevators. By law, grain exported from the United States must be graded and weighed, with a few minor exceptions. Since contracts with foreign countries are stipulated on the basis of U.S. grades, the buyer usually has an inspection system which assures that the grain imported into the foreign country meets contract specifications. Their skilled inspectors judge the quality of the grain on delivery on the basis of the U.S. grain standards. When deliveries appear to fail to meet the standards as stipulated, complaints are lodged through the foreign agricultural counselors, attaches, or embassies. An important

point to recognize is that importing countries use the U.S. grain standards to ensure that the certificate final, which is issued at the time of loading, indeed represents the quality and quantity of grain received. This system is recognized throughout the world and is working effectively.

Concern should be expressed over the decrease in the past 3 years of the U.S. share of the world wheat market. While the total market has decreased less than one-half of one percent, the U.S. share has decreased from 48 to 38 percent during the years 1981 through 1983. It is also significant to note that two of the largest importers of wheat insist on maintaining the distinction between spring and winter wheat classes. In the past year, Hard Red Winter wheat comprised 54 percent, Soft Red Winter 27 percent, and Hard Red Spring 19 percent of the red wheats exported. Wheat classes play a significant role in export markets.

Today grain inspection is based on the physical and biological characteristics of the grain at the time of inspection. Certain chemical tests may be performed to provide supplemental information. From time to time it has been suggested that grain inspection be more objective and less subjective. I'm sure that the grain inspectors would concur and readily adopt objective methods which would meet the criteria necessary for inspection. These criteria are that the test be relatively inexpensive, reproducible, accurate, simple to perform, capable of being performed in less than 15 minutes by technicians, capable of being performed with rugged, dependable equipment not requiring highly skilled operators, and that the results of the tests be meaningful to the buyer and the seller in both domestic and foreign markets.

Today we address the dilemma created by the release of Arkan wheat by the Kansas State Agricultural Experiment Station. Arkan is a cross between

a Soft Red Winter wheat, Arthur, and a Hard Red Winter wheat, Sage, and which on visual examination appears nonuniform in kernel characteristics. This heterogeneity of kernel characteristics most likely causes the wheat to be classified as Mixed wheat. At this time we do not have substantial evidence from commercial flour mills or commercial bakeries which would permit a consensus of commercial acceptability for all markets in the United States or foreign trade.

To permit the market to test the value of this new type of wheat, FGIS is proposing to establish a new class of wheat called Red Wheat. I wish to be clearly understood that I am not advocating this class. We are proposing for public comment that this matter be considered. Such a proposal was published in the Federal Register on January 13 [10] and we request written comments. Simply stated, the class Red Wheat would apply when a commercial wheat appeared to consist of two or more of the following classes: Hard Red Winter, Soft Red Winter, or Hard Red Spring wheat. The minor component would represent a minimum of 10 percent for this new class of Red wheat; the grade factors for all other classes and subclasses would apply, with the additional factor - protein content. The minimum protein content for the grades 1, 2, 3, 4, and 5 would be 13.5, 11.0, 10.0, 9.0, and 9.0 respectively, on a 14 percent moisture basis. The addition of protein content would assist in identifying the potential end use. This proposal would eliminate the dilemma for the present and allow the grain markets to ascertain use and value of such a class.

Why was the particular additional factor of protein selected? It would appear that the Soft Red Winter parent, Arthur, was selected for its yield potential. Thus the major potential use should be assessed for situations in which protein typical of Hard Red Winter wheat might be anticipated.

Over the long term, the State of Kansas generally produces No. 2 Hard Red Winter wheat with protein content approximating 11 percent. Therefore, in the proposal, the No. 2 grade at 11 pecent was selected. If the market chooses to use this class, its use should pose no constraints on the existing system.

There have been proposals that wheat classification should be augmented by new scientific methods, such as those that measure physical properties, particle size index, or chemical, electrical or chromatographic properties. The state of the art indicates that these techniques, while potentially applicable on pure varieties, have limited application on commercial blends of wheat. Moreover, these tests are expensive, time consuming, and require specially trained personnel and laboratory facilities which are usually not available at country, terminal, or export elevators. To address these concerns, we have requested the Agricultural Research Service to include wheat classing on their research agenda. Moreover, we encourage research efforts on the part of interested parties concerning the classing dilemma.

FGIS is committed to a periodic review of the grain standards and to consider for adoption new methods which are acceptable to and understood by the buyer and seller. When new tests are accepted by the grain trade, there is a specific rulemaking process which must be followed prior to changing the grain standards. The main components of this legal process are that a prenotice be published, comments solicited and evaluated; a proposed rule must be published with comments solicited and evaluated; and a final rule published in the Federal Register. This laborious and time-consuming procedure was devised to ensure that standards would not be changed capriciously.

It is important to understand that under the current standards, which have been modified from time to time to meet the changing needs of the industry, wheat is inspected on the basis of its kernel characteristics and its physical and biological condition. Until a suitable method can be found that will objectively classify wheat, be accepted by the trade, and be implemented into the standards, kernel characteristics will continue to play an important role in wheat grades.

I think we can agree that we all desire the same goals for our inspection and weighing system: "Integrity of the certificate and an efficient and cost-effective system" [1].

Thank you.

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