

STORY NUMBER 12 - PROTEIN CONTENT OF WHEAT - WASHINGTON, D.C.  
As told by William J. (Bill) Kuhrt, 1990

This is really not a story as my other stories have been, but it is more the nature of a statement of the beneficial results of my research with the Farmer's Elevators in the spring wheat states of Minnesota, North Dakota, South Dakota, and Montana. You may recall in some of the other stories that in 1924, when I was working for the U.S.D.A. Washington, I set up a five-year study of the operations of Farmer's Elevators in that area.

Each summer as soon as the roads opened up so I could drive the car, I would visit these elevators, take certain data from their books so I could write up reports as to how they operate and what the results might be. As a sort of a side issue, as I was studying the sales slips from the various elevators (when I say elevators I mean the associations; there were associations books), I noted as I moved westward into the drier areas of these four states that every now and then the sales slip for the sale of a carload of wheat in Minneapolis or Duluth would show a notation of a few cents a bushel over the day's quote. And I just sort of wondered why that particular carload or the wheat from that particular elevator would bring a little premium over the rest of the wheat.

I inquired of the managers to see if they knew why, and they almost all said, "Oh, they like our wheat better than some of the other wheat." This probably was true, but they couldn't tell me the real fundamental reason.

So the next time I was in Minneapolis I managed to get in touch with some of the buyers for the flour mills. At first they were pretty reluctant to talk about the thing, but finally one or two of them said, "Well, the reason why we pay a little premium for that wheat is because it has a higher gluten content and that makes a better flour and makes a better bread." "Well," I said, "how can you tell when a carload of wheat has a little better gluten content?" "Oh, that's easy," he said. "We run a protein test on the wheat and we know almost exactly what the gluten content is because they're almost the same. And so, we can use the higher protein wheat to blend out some of the carloads that come in that are below our requirements." I said, "Well, what are your requirements? What percentage of gluten or protein do you like or did you want?" Well, one said "11.4 percent" and another one said "11.6 percent." And I said, "Well, that's the reason then why you pay a little premium for these carloads that you're pretty well satisfied have a higher protein content." He said, "That's right."

It occurred to me we had better find out just how extensive that premium business was and whether or not all of the carloads of wheat coming in were being considered from the standpoint of the protein as well as the grade. So I got in touch with the manager of the baking laboratory for the U.S.D.A. Washington. We worked

up a little plan whereby each one of the 100 Farmer's Elevators would send in a sack, a small sack of wheat from their next harvest which would be coming in that fall, and the baking laboratory would grind each one of those sacks into flour and test it for protein content. And so I arranged with the managers of the Farmer's Elevators to cooperate with the baking laboratory in the fall.

As things worked out, this man who was the manager of the baking laboratory had the list of elevators, and he sent out small sacks to each one of them asking them to fill it with a fair sample of the wheat they were receiving that fall. And they did. Every one of the hundred farmer's elevators cooperated and sent in a small sack of wheat.

So this wheat was ground or at least prepared to the point where a protein test could be made, and this was recorded. The data was confidential to each elevator, but I received a compilation of the total so I could write it up. Well, I wrote it up and it showed very definitely as you move westward into the drier areas of the four states the protein content tended to increase. This was particularly true of western North Dakota and eastern Montana. We found one area in eastern Montana where the protein content of a carload of wheat was over 17 percent, whereas every now and then a carload from northwestern Minnesota was only a little over ten percent.

Well, I wrote up the compilation of the whole thing without divulging the names of the individual elevators. It was published by the Department, and copies went to the Minnesota Department of Agriculture and the college, and apparently to the Minnesota State Legislature.

And sure enough, in the fall of 1925 the Minnesota State Legislature passed a law requiring every carload of wheat arriving at the markets in Minnesota (particularly Minneapolis and Duluth) must be tested for protein content as well as for grade, and the record showing the protein content had to be placed in the bread tin along with the grade slip so the buyer as well as the seller could know what the protein content was. Now, of course, this is all exclusive of durum wheat, which is of course not suitable for making bread. It has a high protein content but it is not good protein nor good gluten for bread. That is produced in the northeastern part of North Dakota. I thought I'd distinguish that so you wouldn't be confused about it. Durum wheat is used for macaroni and all kinds of pastas, so that's excluded. But the regular bread wheats, the same as the winter wheat in Kansas and Oklahoma, are the bread wheats.

Anyway, the Legislature passed that law and it went into effect the first of January, I think, of 1926, and from that time on the farmers of these four states received premiums in accordance

with the protein content of their wheat. And while no record has ever been made with regard to the financial results, I would estimate that in over the years that it has brought back to the spring wheat growers thousands of dollars in premiums for their high-protein wheat.

So that's the story. It's not really a story, it's just a statement of what happened as a result of this research which I had carried on. Thank you very much.