BARGAINING POWER POSSIBILITIES IN THE COOPERATIVE MARKETING OF DURUM

by J. T. Scott

Introduction

World wheat production for 1960 was estimated at 8,180,000,000 bushels. The United States accounted for 1,363,443,000 bushels of this production.

Durum wheat production in the United States in 1960 was estimated at 33,969,000 bushels out of a total United States wheat production of 1,363,443,000 bushels.

1 Associate Professor of Economics at Iowa State University.
The production of durum is highly concentrated. North Dakota, the leading state, accounted for 26,880,000 bushels of the 33,969,000 bushels of durum produced in the United States in 1960.\textsuperscript{4} The bulk of the North Dakota durum is produced in the northeastern part of the state in a small triangular-shaped territory around Devils Lake.

Durum production has been attempted in many states since the first seed was brought to this country in 1898, but North Dakota has emerged as the dominant producer. The climate and soil of that state permit the growth of a product that is generally of higher quality than that produced in other areas.

The method of processing of durum depends on the end product for which it is selected. The three markets for durum in the United States are (1) the puffing market (i.e., puffed wheat market), (2) the spaghetti and macaroni market, and (3) the noodle market.

The puffing market uses only the fanciest, plumpest durum. Spaghetti and macaroni are made from the better grades. The poorer quality durum is used in making noodles and "alphabets" for soups.

Durum is not used as a bread wheat in the United States. A one-pound durum loaf makes a much smaller loaf than do the bread wheats. The consumer prefers the larger loaves.

Position of Farmers Union Grain Terminal Association

The Farmers Union Grain Terminal Association (GTA) handles approximately 40 percent of the durum produced in the United States. It receives part of the grain of member elevators located in the durum producing areas for use in its processing plant at Rush City, Minn. The member elevators sell the rest of their grain to the seven other firms which comprise the durum milling industry. The output of the Rush City plant (semolina and durum flour) represents approximately 10 percent of the industry total and is sold to other firms for final processing. The GTA is not represented among the more than 200 companies doing the final processing.

The GTA is not the only integrated firm in the industry. Other firms buy part of their durum needs from the GTA, but they are not entirely dependent on the association for their supplies. Some own country elevators in the durum producing areas and buy part of their supplies directly from farmers.

Possibilities for Increasing Producers' Returns

Can GTA enhance the prices received for durum by farmers? Officials of GTA think they can and have received better prices in the short run through judicious use of storage facilities. The long-run story, however, is somewhat different because the association must handle the quantity that farmers want to market. Consequently the association has no control over the durum supply and therefore none over the long-run price level.

Then what are the possibilities for getting better prices for durum and durum products if one ignores short-run storage operations? The long-run situation is extremely difficult to assess. However, some knowledge can be acquired by the exploring several related questions. First, are the possibilities for durum price gains relative to other wheat prices limited by opportunities for substitution in production and/or substitution in consumption. Second, are there price-enhancing possibilities arising from GTA's relatively
large size and market share? Third, is GTA's market share vulnerable to competitors? Finally, does the presence of a cooperative affect prices under an oligopoly situation?

Substitution in Production

Farmers in the major producing areas grow both durum and hard red spring wheat when growing durum becomes less profitable. Conversely, they plant more durum if durum wheat prices rise in relation to other wheat prices. Durum, however, is generally the favored crop, even at a lower price, for it produces higher yields per acre than hard red spring wheat. As in any producing area, there are farms where this yield advantage is small and others where it is quite large. Allowing for such differences and assuming the price of other wheats to be constant, we can suggest a long-run supply curve for durum.

![Durum supply curve](image)

\[ Op = \text{Price of "other wheat," which is assumed constant} \]

Fig. 6. Long-run supply situation.

The durum supply curve under such circumstances can be pictured as having three distinct segments. The segments are pictured in fig. 6 as straight lines to simplify the illustration. The upper segment represents the situation when durum sells at a premium over other wheats. The middle segment represents the situation prevailing when durum sells at a discount—but at a discount too small to offset the advantage of durum's superior yielding qualities on all farms in the durum areas. The lower segment represents the situation when durum sells at such a discount that other wheats can be grown more profitably. If durum prices fell to such a low level, there would be (with some lag due to imperfect knowledge) a shift out of durum production into other wheat production (i.e., the supply curve would become perfectly elastic). If durum were selling at a premium over other wheat, the supply curve would be much more inelastic as is shown in the upper segment.
The middle segment has an elasticity somewhere between these two extremes. This segment accounts for the fact that durum outyields other wheat more on some land than on other. Therefore, with each small reduction in the durum price, a few more farms will find it profitable to shift out of durum. Thus for any given drop in price there will be a greater reduction in supply than would prevail for an equivalent price reduction when durum is at a premium. Note that the actual situation is probably a smooth curve with only a suggestion of a corner. Obviously the shift depicted in the middle segment is also operative to a somewhat lesser degree in the corners and on the other two segments.

**Substitution in Consumption**

Can other wheats be substituted for durum in the preparation of macaroni and other products usually made from durum? The answer to this question is still in doubt. However, when durum was scarce in the early 1950's some substitutions were made. In fact some durum product manufacturers found it necessary to manufacture their finished products entirely from wheats other than durum. The complete substitution resulted in an acceptable product in the sense that it was not criticized by the consumer. Whether a prolonged offering of non-durum macaroni products would result in lessened demand for such products is not certain. Nevertheless, it does seem probable that substitutions of non-durum ingredients will be made if durum sells at substantial premiums over other wheats.

The durum product demand curve is shown in fig. 7. The actual situation would be shown by a gently rounded curve since each processor and consumer would shift from durum at a different price.

![Durum demand curve](image)

**Fig. 7.** Long-run demand situation facing the farmer and/or his representative.
The "kink" in this demand schedule would be less pronounced in a short time period. Because of custom and the processors' fixed investments and also because of lack of knowledge, a sharp shift away from durum would be less likely in the short run. Of course the durum seller's chances of getting a very high premium in the long run are almost nil.

Putting these two concepts (supply, fig. 6 and demand, fig. 7) together with other pertinent information, we find that the durum price will not be the same as the price for other wheat except by coincidence. However, it should move with other wheat prices, and over the long run, durum prices relative to other wheat prices should not be higher than the "kink" in the demand curve nor lower than the lowest "kink" in the supply curve.

**Market Share Considerations**

GTA is one of eight firms involved in the first processing stage, during which durum is made into semolina and durum flour. It has approximately 10 percent of the industry's capacity. With only a few firms and a product which is relatively homogeneous, in the first processing stage the industry seems to be an oligopoly.

An oligopoly is said to exist when "each firm must ask itself what will be the effect of its action upon the behavior of other firms." One can be relatively certain that each of the eight firms is painfully aware of the retaliatory threat of the others to any contemplated price changes. This situation should be equally true at the terminal grain-marketing stage, during which GTA handles 40 percent of the durum produced in the United States.

From the foregoing discussion of the market structure one might speculate that durum prices are higher than they would be under perfectly competitive conditions. Price leadership in buying and selling could develop where there are such a small number of firms. There are factors that make this supposition somewhat doubtful, however. For one thing, none of the oligopolists has any control over the supply of durum. Second, one of the oligopolists is a cooperative.

The durum producers determine the amount of durum to be planted; therefore, elevators and processors have little control over the long-run supply. They can affect the short-run offerings by storage operations, but over the longer haul they must process and sell all durum produced. If one processor refused to buy from a farmer, the processor's competitors would gladly handle the entire crop. Thus the individual processing firm can have little effect on the total supply marketed, consequently little effect on durum prices. The obstructionist would succeed only in reducing his own profits below what they could have been.

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Of course a firm could decide to buy a large quantity of durum and destroy it. This action would reduce the long-run supply, thereby increasing price. The firm taking such unilateral action would probably have to control more than half of the crop to benefit from such action, however. Lucrative crop reduction would likely require concerted effort by firms handling more than 70 percent of the crop. Since this action would be difficult to achieve, it appears unlikely that durum middlemen will do anything other than market the amount produced.

**Vulnerability of Market Share to Other Competitors**

What response could GTA expect from its customers if it announced a "high price" for its durum? For one thing such action would allow the other handlers to sell a larger share of the durum merchandised provided they could obtain their supply directly from elevators or farmers. This alternative is within reach of some durum product manufacturers, for they own and operate elevators in the durum producing areas. Thus, GTA stands to lose a part of its share of the market if it attempts to extract a premium for durum which is not based on competitive market conditions.

**Cooperative Corporation in an Oligopoly Situation**

How does the operation of a cooperative affect the oligopoly situation? At first glance one might suppose that the participation of a cooperative would not affect oligopoly pricing practices. However, "follow the leader" or other arrangements which enhance the price of the product will likely result in increased net earnings by the participating firms. This creates no problem among business corporations other than to attract the attention of potential competitors.

However, the cooperative remits its earnings to member elevators and thence to the farmer patron. Since each farmer patron can independently decide where to market his grain, a number would shift from elevators to cooperative elevators dealing with the cooperative oligopolist provided market prices for all oligopolists were identical.

Thus there is a tendency for the product to shift to the cooperative. Business corporations resist the short-run temptation to raise industry prices, for in so doing they run the risk of reducing their share of the market and subsequently their profit.

**Summary**

Briefly, it would appear that the GTA cannot appreciably raise durum prices in the long run. The reasons for this are somewhat complex but can be summarized as follows:

1. Other wheats can be substituted without too much fear of market reactions if durum sells at too high a premium over competing wheats.
2. Although only a few firms are represented at the terminal handling and first processing stages, there are some factors which would tend to defeat price enhancement schemes:

a. The firms at these two stages cannot in the long run control the supply since the farmer makes the production decisions.

b. Business corporations at these two stages cannot join with a cooperative in a price enhancement scheme since the scheme would result in greater cooperative patronage dividends and a shift of the market to the cooperative.

c. Some of the larger business corporations have country elevators in the durum producing areas. The potential competition which these elevators represent is a deterrent to any move by the cooperative to try to practice marketing restrictions and extract higher prices from consumers on its own initiative. Any such move would be countered by increased country buying by the cooperative's competitors.