

THE ROLE OF THE PROCESSOR IN THE SUNFLOWER INDUSTRY

By

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The role of the Processor in the new Sunflower Industry is far more complicated than merely squeezing the seed and taking orders for the resulting products.

The interest in processing sunflowers came primarily from the flaxseed crushing industry. Only 15 to 20 years ago this age old industry processed over 30 million bushels of flax to satisfy the domestic demand for linseed oil. Since then the demand for this excellent drying oil has been on a steady decline to where today we need to crush only 11 to 12 million bushels to supply the needs of the United States. In 1962 two of the major flaxseed crushers began looking for an alternative oil seed crop to crush in order to keep plants running. In that year we tried Safflower but soon discovered that this crop was not adapted to our region.

We were familiar with the sunflowers being grown in our area for the bird seed and confectionary trade. These varieties were too low in oil content to economically convert. For several years prior to the introduction of the high oil varieties, the bird seed types were being grown in the Red River Valley in North Dakota and Minnesota. Contract prices to producers were in the 5¢ per pound range and were being offered by several buyers in that area. Free or uncontracted seed had experienced a market value ranging from zero to as high as 8¢ per pound. We were well aware that this bird seed was being sold in our neighborhood stores at from 20\$ to 35\$ per pound. Since we as processors deal in tons we quickly converted this to \$400.00 to \$700.00 per ton at retail. At these levels we could not hope to compete.

It was however, very evident that the market for the bird and confectionery sunflower seed was limited. Farmers in the producing area were in need of a row crop and their interest in this crop was high.

From the very start, we as processors fully realized that although all the varieties were called sunflowers, the marketing difference between the bird seed and the oil seed were miles apart. We also appreciated the broad role that we would have to play in the early stages of development. To make this crop a reality, the processors were faced with three major challenges:

1. Encourage farmers to plant oil type sunflowers and contract for acreage.
2. Prepare the mill and or the seed so as to economically process the crop.
3. Open up new markets for the resulting oil and meal.

Lets examine these challenges in the order presented.

Contracting for Acreage

As stated, we were familiar with the common sunflower varieties and their 25% to 28% oil content so when we heard of the Russian advancement in developing varieties containing from 42% to 45% oil we rekindled our interest in sunflowers as the alternative crop for processing.

In 1967 there was sufficient certified seed available in our area to warrant contracting. Three processors contracted for close to 100,000 acres of this new crop. The 4½¢ per pound contract price to producers was much too rich for the processors and as a result the crushers lost money but gained experience. We realized that in the face of 8¢ soybean oil we could not hope to pay this price and break even so in 1968 the price of the contract was reduced to 3 ¾¢ per pound. Producer resistance developed and the National Sunflowers Growers Association came into being. This group recommended that growers refuse to sign contracts and thereby force the processors to pay the 4½¢ they wanted. Processors, however, had their economic backs to the wall and could not budge. Somewhat of a stalemate developed and contracted acres were down considerably. The 3 ¾¢ contract offered a premium clause based on the soybean future on the Chicago Board of Trade but the depressed market for soybean oil did not aid the producer. The crop in 1968 was good and those farmers who did grow oil type sunflowers were rewarded with a return per acre equal to or better than most competing crops.

As contracting time approached in 1969 the domestic and international vegetable oil market was still depressed and processors were again forced to lower their contracts.

Based on the two years sales experience, contracts were let at 3½¢ per pound. Again the contracts carried the premium clause based on the soybean oil market. This year the soybean oil market has reacted favorably for the sunflower grower and contracting farmers received more than ¾¢ per pound premium over the contract price for their harvested seed. This resulted in a price of over 4½¢ per pound and a return per acre of better than \$46.00 average, better than almost any other competing crop in that area. Processors too were aided in their ability to sell sunflower oil at higher than anticipated levels.

The three year history of oil type sunflowers has shown some encouraging facts. In North Dakota the oil varieties outyielded the bird seed by 17% and in Minnesota the average three year yield for oil seed was 15% higher than for birdseed. In addition to this the smaller head size of the oil variety allowed for quicker drying in the fall resulting in earlier harvest, an important factor in late fall harvest in our area. Because of these plus factors for the oil seed, growers are now demanding a considerably higher contract price for growing bird and confectionary seed.

We feel that yields the past three years have been only fair to good with the oil varieties averaging about 1100 pounds per acre. We are aware that had a crop failure or near failure developed at any time during this period, the future of crops would have been badly delayed. Another fair to good crop this year will establish beyond a doubt that the sunflower crop can be produced in our area in competition with other crops.

The contract price for the 1970 crop has been 4¢ per pound and again about 100,000 acres are under production. At 4¢ per pound to the grower, sunflowers have been a profitable crop to grow when compared to most crops on today's market. However, let's face the fact that 4¢ is not a panacea to our farmers and only because the price of other crops is so low does the sunflower crop look good. For the long pull, we must agree with our growers that unless rapid strides are made in the development of new hybrid, high yielding varieties, a 4½ to 4¾¢ price would make for better farming economy. It is our hope that the increased demand for sunflower oil will require considerably more acreage at prices more palatable to our growers.

We are deeply indebted to all of our oil type growers over the past 4 years. Their willingness to plant this new crop, to invest in additional machinery, and to share their cultural practices has been the grass roots strength on which this industry will be built.

Processing

Today there are only two plants processing sunflowers in the Northwest. Since I am not familiar with the operations of the South, I can only speak for the activities in Minneapolis. Both plants were designed to process flax and, since for the foreseeable future, flax will continue to be our major crop to crush, it has been necessary to adopt the sunflower seed to fit existing facilities rather than redesign the plant equipment.

As of now, one plant is processing whole seed and the other is running decorticated seed. There are few if any secrets to discover or share with each other since preparations and plant operations are quite different. Experimental plant operations, to date, have been for the purpose of increasing plant efficiency to reducing crushing cost per ton to a workable level. Since cost per day remains relatively stable, the only way to reduce the cost per ton is through increased number of tons processed. Plant processing procedures are now fairly well established. The plant crushing decorticated seed will make a sunflower meal containing 38 to 40% protein and 10 to 12% fiber, while the whole seed process will render a meal of 28 to 30% protein and a 24 to 26% fiber.

Good arguments are available for both processes. To date, we have found no equipment capable of adequately decorticating sunflower seeds. Present equipment leaves 5 to 6% of hulls in the meats and is, of course, an additional expense in preparation.

Whole seed, on the other hand, can create a problem in the saleability of the high fiber meal. As the volume of seed crushed increases, we will be able to better evaluate economic values of these two processes.

Another problem to be solved is the storeability of the seed. Fall harvest in our area often finds the combine competing with the fall rains and snow, and field drying is slow. Also delaying in harvest results in loss due to birds. Harvested seed, containing 14% moisture, has heated in transit to market. Both processors have adequate grain drying capacity at their unloading sites, but if the sunflower acreage is to increase we will need more grain dryers at country elevators and farm locations to facilitate the early harvest and storeability of this crop. When in store for long periods, we have found that seed containing even 10% moisture is vulnerable to heating.

Oil Sales

Understandably, the entire future of the sunflower crop depends on the ability to sell the oil. Had we have hired experts to determine the worst possible time during the past 100 years to introduce a new oil in the United States vegetable oil economy, they would surely have picked the fall of 1967 through the fall of 1969. World oil prices were depressed. - - U. S. soy oil was 8¢ per pound on the domestic market. - - Russia was offering sun oil laid into Rotterdam as low as \$156 per ton. With the United States a surplus producing nation of fats and oils, no oil buyers were beating on our doors begging for sun oil. To add to the problem, United States vegetable oil processors were not familiar with sun oil and marketing was delayed while their chemists were dissecting this new product. Domestic sun oil was not available in sufficient quantity to attract large buyers so small quantities were sold at roughly soybean oil prices to attract potential buyers of the future.

During the past three years, many potential buyers have studied sunflower oil and a number have indicated interest. The rumors still persist that several large national oil processors are only waiting for supplies to increase and they will buy up large tonnage to manufacture margarines, cooking oil, and mayonnaise, etc.

This year will see well over 500 tankcars of sun oil available in our Minneapolis market. Although this is still only a dribble in the United States vegetable oil market, we feel that many more buyers will have access to this fine oil.

I firmly believe that today we stand on the threshold of a promising industry in sunflower oil in the United States. Many of the hurdles have been cleared. Producers have proven they can grow the crop; processors now know that they can economically process. The next hurdle is up to the oil buyer and the United States Consumer. Today we need a product on the consumer market that uses and advertises the merits of this fine oil. We firmly believe in the long range potential of this high poly-unsaturated vegetable oil.

The next big breakthrough in the sunflower industry will be made by one of the major oil processing companies. A tremendous market awaits the margarine, cooking oil, or mayonnaise manufacturer who uses this fine oil in a nationally advertised product. I am certain that they know, even better than I, the inherent ability of this romantic plant to grace the screen of millions of T. V. sets.

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