

SUNFLOWER DISTRIBUTION

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Until the U.S.S.R. developed the new high oil types of sunflower which have received so much attention in recent years, most of the world's sunflower stayed close to the area where it was produced. The main exception to this distribution pattern was the shipment of sunflower oil and cake to Europe from Argentina.

Once the high oil types with their wide adaptations became available, the distribution pattern became much more interesting and varied. The purpose of this paper is to trace some of those changes and compare the distribution system which has now developed in the U.S.A. with that in other parts of the world.

Sunflower has become the world's second leading oilseed. Like soyabeans, sunflower can be produced over a wide band of the earth's surface--the wide adaptation of high oil types has brought many new areas of production into being in the last few years.

The Red River Valley of North Dakota and Minnesota has produced edible type sunflowers for at least twenty five years on a commercial basis. This built-in knowledge of the crop made it a natural area to begin production of high oil types a few years ago when they became available from Russia.

Initially, production was encouraged by two oil millers and a feed manufacturer interested in sunflower protein. Over the course of the past ten years this interest has varied. The feed manufacturer dropped out. Another oil mill was built to crush sunflower, but closed down in 1969. Exporters' attention was drawn to the area in 1969 when seed originally destined for the closed mill became available at the same time Russia decided to suspend its export of seed. Additional exporters entered the picture this season as a new freight rate became available, and it appeared that both domestic and foreign demand for sunflower seed is growing.

Russian sunflower hit world markets like a bombshell 1967. Actually, this development should have been foreseen, since the rise in size and quality of Russian production was readily available in statistics prepared by the Economic Research Service of the U.S.D.A.

Soviet oil quickly captured good markets in the Middle East and Europe which had been dominated by the U.S. soya over the preceding ten years. Soviet seed shipped to Japan immediately cut into the U.S. exports of safflower seed and lessened Japan's needs for cottonseed oil. Sunflower meal, when first produced in Japan, was unacceptable to Japanese feeders and was shipped back to Europe and England. The meal has a much better profat analysis than safflower meal but its black color and newness created problems for the seller. However, this has been overcome, and it now is

used in Japan on an equal or premium basis compared with the safflower meal it displaced.

Japanese oil users found that sunflower could be used in their particular types of mayonnaise in place of traditionally used cottonseed—a ready-made market was immediately available. Japanese consumption of sunflower seed from Russia, Romania, and Bulgaria leaped ahead, and imports of safflower from the U.S.A. and Mexico fell accordingly.

Both Australia and Spain have been importers of oils and fats. Australia because she had no large domestic source of edible oils; Spain to produce cooking fat, allowing here to export higher priced olive oil. Both countries are now engaged in programs to become fully self sustaining in domestic oil production with sunflower as a chief ingredient. In a relatively short time both could indeed become surplus producers and therefore exporters. Mexico, too, is showing keen interest in sunflower production to augment her domestic shortage of fat.

Let's examine the development of sunflower distribution in a new area using the U.S.A.'s Red River Valley as an example for comparison.

Methods of Inducing Production

In the Red River Valley, the bulk of the oil type sunflowers planted are grown under contract as a spring or summer planted crop. The contracting is usually done by a local elevator that in turn represents an oil mill or exporter. These contracts require the grower to plant a certain acreage of a specified variety (usually Peredovik at present) if weather conditions permit it and to deliver his production as harvested to the local elevators. The contract in turn guarantees him a firm price for his sunflowers (less certain dockage factors). In 1969, growers were also offered contracts featuring a firm floor price with a bonus based on a average of several months of the Chicago soyabean oil futures. This resulted in a substantial premium to the grower.

In 1970, one contract is being offered which agrees to pay the grower for part of his crop at harvest time and required him to hold the balance in his own farm storage until January in return for a storage premium.

In contrast to the U.S.A. system, Argentinian sunflower acreage is grown on an open basis much as grain or soyabeans in the U.S.A. A consortium of oil millers are the primary driving force in encouraging plantings, but the grower is basically on his own as I understand it.

On the opposite end of the scale, Spain and Australia both are encouraging sunflower production by offering growers production contract. In Spain, a subsidy is offered, and the oil mill which is in turn passed on to the grower to cover his costs of planting seed and fertilizer.

In Australia the system used is practically the same as in the U.S.A. except the crop is grown primarily as a winter crop under irrigation rather than as a dryland summer planting.

In the U.S.S.R., the system is somewhat more complex. Quotas and prices are established by the government on a national basis, and these quotas are divided into farm contracts on an individual grower basis.

The type of seed he is to grow is specified and he obtains his seed from the All Union Institute at Krasnador. If he can exceed his quota, the rewards for additional production have been quite generous (100 per cent) making sunflower a very popular crop in the last few years.

Transportation for the Farmer

U.S. farmers bring their crop to market usually in five-ton capacity farm trucks. This equipment is used to deliver the crop to a local elevator or shipping point. In a few instances growers are able to harvest directly into twenty five ton capacity or higher grain trucks which deliver directly to oil mills or their receiving points.

Argentina growers bring their crops to the elevators in large trucks. In Russia, smaller trucks and a lot of animal power is still used in field delivery. The rough condition of country roads in the early winter has been a factor almost every year in slowing the U.S.S.R.'s ability to offer an early estimate of the crop.

Country Storage, Cleaning and Drying

In the North Dakota/Minnesota area, storage for the crops has been a problem at times. Many grain elevators prefer not to handle sunflower seed since they feel it can become a contaminant that will cause carloads of barley to be rejected. Therefore, in a number of locations having two receiving points, one elevator will specialize in sunflower receiving while the other confines itself to grains. Also, flat storage houses normally used for storing sacks or other items have been pressed into service to hold bulk sunflower. This season, one of the processors is offering its growers a contract requiring them to store half of their harvest into January on the farm. Another processor is building a large upright storage building at a country location. The crop in the Southern U.S.A. is handled basically by deliveries direct to the oil mill.

Export contracts have offered another partial solution to the storage problem in the area since the bulk of the export crop will be shipped to terminals as the crop is received so relatively little country storage is required.

In Argentina we understand the bulk of the crop is handled in vertical storage much as other grains. In Russia much of the crop has been piled on the ground or in small flat storage buildings located along railroads. Evidently, quite a bit of storage has been built recently to alleviate the pressure caused by the lack of storage which occurred four years ago, which many allege was one factor in forcing the U.S.S.R. to export so much seed.

Relatively little country cleaning and drying is available in U.S. sunflower production areas. A few farm type dryers have been employed in helping to bring the harvested levels of 16/17% down to the 10/11% levels required by buyers.

In Russia, bunker-type dryers seem to be used in profusion, with much accomplished by drying in thin layers on floors or on the ground. Most of the seeds delivered to Japan appeared to have been dried very well and cleaned to 10% foreign matter.

Only one terminal elevator on the U.S. Pacific Coast interested in handling sunflower seed offers drying facilities, although several have indicated this could change if volume of sunflower exports increased. At least three can offer high speed scalping facilities.

Transportation to Terminals/Oil Mills

The bulk of the crop is delivered in railroad hopper cars in the North Dakota/Minnesota area. The Burlington Northern Railroad co-operated greatly in pushing for a new rate of \$1.00 per cwt. to Pacific Coast ports versus \$1.47 available previously. This has been the largest single factor in making exportation of U.S. seed feasible. A shortage of cars exists in the U.S. at the present time. Co-operation from all concerned will be necessary to prevent congestion during the 1970 harvest.

Shipment

The bulk of the world movement of sunflower seed has been conducted by the U.S.S.R. and Eastern European countries moving seed from the Black Sea to Japan with lesser quantities moving primarily from Bulgaria to Italy. The Black Sea to Japan movement has accomplished in 7,000/7,500 L.T. capacity vessels and results appear to have been quite good. Vessels of this size were quite able to call directly at even the smaller oil mill berths in Japan. The rates charged for these vessels during the height of the large movement to Japan were very competitive with rates charged by western vessels on much shorter hauls.

The U.S.A. movement to Japan was accomplished by stowing in grain carriers, tween deckers, carrying mixed cargoes of oil seeds and feedstuffs. This same procedure will probably prevail for the 1970 crop as well. In general these vessels are larger and must discharge into lighters in outer harbors or only at large oilseed berths.

Sunflower oil is moved quite easily in conventional railroad cars, tank trucks, tankers or barge tanks. It is a relatively clean oil so that relatively low amounts of sludge results and squeegeeing is at a minimum.

In the U.S., sunflower meal is produced on both an as is, and decorticated basis with handling almost entirely in bulk. Japanese oil mills produce entirely undecorticated material with much of the production being handled in bags. Argentina offers both versions to Europe.

Sales Contracts

When the U.S.S.R. began offering sunflower to Japan, the contract offered was competing with safflower seeds shipped from the U.S. Pacific coast. Safflower had been sold traditionally on a 34% oil content basis with reciprocal allowances of 2% of contract price for each 1% of variation in oil content fractions in proportion. Actual safflower shipments usually ran 38 to 40% oil content. The U.S.S.R. contract emphasized their new seed superiority by establishing a 40% oil content basis and establishing on a 1.5% premium oil solvent for each 1% of oil content variation. Actual shipments ran 48%.

Russian sunflower contracts provided for an allowable 2% foreign matter with actual shipments generally well under this compared with safflower which sold on a pure basis with actual shipments usually 2 - 2.5%.

Sunflower moisture guaranteed maximums were 11% versus safflower's 8%.

U.S.A. sales of sunflower seed sent to Japan have primarily followed the Russian terms. As sunflower captured the market the quality of U.S.S.R. deliveries dropped lower. Oil Contents of the last shipments to Japan fell about the 45% level equal to that of the first U.S.A. exports.

Trade Barriers

The final factor to be considered in the sunflower distribution pattern is the effect of duties and taxes.

When Russia first began offering high oil sunflower seed to Japan, she found a built-in advantage available. Soyabeans and safflower had duties of about 8% and 4% respectively but zero duty applied to sunflower seed. No previous trade in the seed had existed, so no duty structures existed. Sunflower oil was excluded by quotas which essentially prohibited importation of any oil.

As the movements of Russian oil shipments into Western Europe grew, the E.E.C. became alarmed and applied variable taxes on oil from Eastern European origins--at times these were as high as \$30/40 per metric ton. The duties on oilseeds in Japan have now been reduced so sunflower does not have as great an advantage and the sanctions in Europe have been removed as sunoil prices climbed to higher levels.

As more and more countries become net exporters of sunflower seed and oil in the future, it will be interesting to watch what changes occur in trade barriers.

Distribution patterns for sunflower, since it is a new crop for many parts of the world, should change rapidly in the next few years. These changes will create problems for buyers and sellers alike which should make working with the crop interesting and profitable to those who are prepared to cope with such changes.

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