

# Report on Vegetable Oilseeds Production and Vegetable Oil Production in the Republic of South Africa

S. R. HAAS, South African Oil Mills (Pty.) Ltd., Randfontein, TVL., South Africa

South Africa produces peanut, sunflowerseed, soyabean and cotton on a commercial scale. These seeds are used by the South African Industry for the manufacture of: vegetable oil for edible purposes; hydrogenated vegetable oil for vegetable fats and margarine; industrial oils for the paint, rubber and lubricating industries; hydrogenated fatty acids; and distilled fatty acids. In addition to these oils, a fair quantity of maize (corn) oil is produced annually out of the maize germ residue from the maize milling and starch industries.

As South Africa produces more oilseeds than required by the local industry, the surplus is exportable.

Since prehistoric times vegetable oils were used in Africa by the indigenous population for dietary purposes; they also were used for cosmetics, either on their own or mixed with earth.

In the early days, the white population of South Africa used animal fats and butter as dietary fats; all other lipids for medicinal, cosmetic and industrial purposes were imported. Soaps were imported as a finished product. Later, raw materials such as coconut oil, palm kernel oil and tallow, were purchased from overseas and used for the manufacture of soap.

Over the past 10 years the population of South Africa has changed its eating habits and started using vegetable oil brought to South Africa by early settlers who came from cold climates where the consumption of animal fats was traditional, in their diets, thereby reducing the consumption of dripping and animal fats. The much warmer climate of South Africa did not ideally suit the consumption of less digestible animal fats, and the changeover to vegetable oils was inevitable.

The industrial development of the country, and the increased consumption of fats by the Bantu population, outstripped the available animal fat production, and the industry started importing oilseed, mainly from India, to satisfy the increased demand for vegetable oil.

The by-product of the vegetable oil industry, i.e., oil-cake, became an important addition to balanced rations for animal feeds, and the development of the vegetable oil crushing industry made it obvious that the local cultivation of oilseeds should be encouraged. The vegetable oil expressing industry started before the First World War.

Only after the Second World War were sufficient peanuts produced to be of any importance to the larger oil expressing industry.

Until then, the local oil expressers were concerned only with the local consumption of vegetable oils based on imported seed. The limited quantity of locally grown oilseeds, mainly peanuts, were sold for edible purposes and only the lower quality was used for crushing purposes.

When the cultivation of oilseeds started, the handling of the crop in the Transvaal (the main growing area) was undertaken by farmers' co-operatives and private companies. Later, all sections of the trade, industry and consumers, were co-ordinated to form a part of the economical-industrial sector of South Africa.

Duty free imports of oilseeds were allowed, only after all the peanuts locally produced were taken up by industry and commerce. This measure helped the development of the vegetable oil expressing industry, and between 1934 and 1938 vegetable oil consumption in the Republic of South Africa more than doubled, and the domestic production of oilseeds more than trebled. By 1938 the oil expressing industry was able to satisfy the country's requirements.

Local peanut deliveries for crushing purposes were 2,200

tons in 1935, rising to 5,438 tons in 1939. This represented only 14.6% of the total volume of peanuts crushed in 1935 and 16.5% in 1939 (1).

An export market for three to four kernelled pods of Virginia Bunch, Valencia type, had been developed overseas, and this enabled the Government organization to pay better prices, i.e., above the price paid by the oil expressers to the producer. Consequently, an improved quality of nuts was produced.

During the Second World War a limited quantity of oilseeds and raw material was reaching South Africa. A shortage of all oils and fats occurred and the seed growing industry took the opportunity which offered itself, and attained the importance which it has today.

The improvement of the production suffered setbacks through unfavorable weather conditions, and up to 1945-1946, the output of peanuts was lower than in 1938-1939.

To safeguard the food situation, and to guarantee the adequate distribution of agricultural raw materials, including peanut, the Directorate of Food Supplies was charged with the distribution and allocation of peanut and later, of sunflowerseeds (1946).

At the end of the Second World War, the South African Government became aware of the probability that India and other countries, from where oilseeds were obtained, would utilize these seeds to satisfy the demands of their own population, and as at the end of other wars, a general shortage of foodstuff could be expected, partially due to the devastation of large tracts of land in agricultural areas.

Some European countries also recognized this danger and took rather risky steps to ensure supplies of oilseeds from parts of Africa, without first establishing whether crops of this nature would grow in the area. Not having sufficient information about climatic and soil conditions, these schemes ended in failure.

The Government of South Africa launched an intensive campaign to increase the production of oilseeds in the country, encouraging the cultivation of other seeds, and the farming community responded in a magnificent manner. Large scale development then took place.

Before planting time, the Government guaranteed a buying price for shelled peanuts to the farmer, and undertook to buy South Africa's whole output. Furthermore, the Government made peanut seed of the Natal Common type available. This replaced the Virginia Bunch (Valencia type), which had previously formed the main crop. The farmer thereby achieved a higher yield per morgen, less wastage during harvesting, and a better set of pods.

The original Peanut Producers' Advisory Committee was replaced in 1946 by the Peanut Advisory Committee, under the chairmanship of the Secretary of Agriculture. The members of the Committee were representatives of oilseeds producers and oilseed crushers.

The Co-operative Producers' Association established a Central Co-operative for oilseeds for mutual consultation and discussions regarding production, marketing and price of oilseeds. This organization, supported by the Peanut Advisory Committee, instigated the establishment of a one-channel marketing scheme under the Marketing Act, which ultimately resulted in the establishment of the Oilseeds Control Scheme in 1952.

The establishment of a Control Board, to which certain powers in respect of the two oilseeds, sunflowerseed and peanut seed, were entrusted, was the final step to guarantee the producer and consumer of oilseeds a fair and equitable deal. The Board acts as sole buyer of the oilseeds, and

## • Vegetable Oilseeds in South Africa . . .

(Continued from page 40A)

TABLE I  
Production of Peanuts and Sunflowerseed in the Republic of South Africa\*

Marketing season	Peanuts (shelled basis)	Sunflower-seed
1952-53	79,600	53,473
1953-54	96,900	53,927
1954-55	141,728	56,377
1955-56	137,377	57,794
1956-57	157,073	70,344
1957-58	127,428	82,187
1958-59	98,244	75,746
1959-60	133,436	109,283
1960-61	146,859	98,850
1961-62	188,093	122,616
1962-63	131,307	107,281
1963-64	191,428	107,651
1964-65	150,707	84,550
1965-66	141,297	80,604
1966-67	146,837	111,164
1967-68	316,112	110,285

\* 1952-53 to 1967-68, 2000 lb. units.

supplies these oilseeds, either for export or for local consumption.

The Oilseeds Control Board does not undertake the physical handling of oilseeds. This task is undertaken by the agents of the Board, mainly farmers' co-operatives, and some business organizations, who take delivery of oilseeds from the producer on behalf of the Control Board.

The rapid increase of production of peanuts and sunflowerseed followed the inception of the Board (Table I, an extract from the Oilseeds Control Board Report of 1968).

Most of the peanuts are shelled on the farms and

delivered to the collecting centers as shelled peanuts. The balance of the crop is accepted by the collecting centers unshelled. It is common knowledge that peanuts stored in the shell keep fresh much longer, and therefore, the Board is able to supply all buyers, particularly the overseas buyers, with fresh peanuts all the time, because these peanuts in the shells are decorticated only shortly before they are ready for dispatch to the buyer.

The agents who receive the peanuts and sunflowerseeds on behalf of the Board, grade the oilseeds according to strictly laid down grading regulations—the producer obtaining an advance payment determined by the Board—and store the oilseeds until the Board instructs them to deliver the seeds for local consumption or for export. Final payment to producers is effected when the total crops have been sold and the net return can be established.

The agents are paid for handling and for storing, and also for weight loss through drying out.

To assist the co-operative farmers' societies, who act as agents, to finance the purchase of the oilseeds crop, the Board furnishes the Land and Agricultural Bank with guarantees on loans granted to the farmers' co-operative societies.

Hand picked, selected peanuts for export, earn a special remuneration, which is fixed annually by the Board, in collaboration with the National Marketing Council, based on the average selection cost at the different points of operation.

There are several subcommittees in operation, such as the Executive Committee, Edible Trade and Educational Committee, Grading and Scientific Committee, etc.

Members of the Board are mainly peanut, sunflowerseed and soya bean farmers, but the oil crushing industry, peanut roasters and processors, oilseeds merchants and consumers, are also represented. One member represents the Department of Agricultural Technical Services.

The personnel to administrate the functions of the Board consists of a professional manager with his staff. The most important function is the allocation of the oilseeds to the local industry and consumers, to guarantee an adequate production of vegetable oil, edible nuts and oilcake. This extremely well organized and administered one-channel marketing scheme, acting impartially for the benefit of the whole, i.e., producers and consumers, has proved its success over the years.

Lately, the Soya Bean Advisory Committee was formed, with the Chairman of the Oilseeds Control Board, and representatives of producers and oilseed crushers, to encourage the production and consumption of soya beans. There is a problem attached to the propagation of soya bean seeds in South Africa. The climate and soil conditions are not ideally suited, and the low humidity of the atmosphere before and during harvesting time, increases the risk of harvest losses.

Considerable effort is put into developing new varieties to obtain better yields and higher protein values, and it is expected that this effort will have positive results in the not too distant future.

Considerable work has been done to improve the quality of sunflowerseeds, i.e., to obtain a higher oil content. The average oil content of South African grown sunflowerseed is between 29% and 30% and the target is to obtain at least 45%. So far these efforts have not been very successful, and an average of about 36% oil has been obtained. As sunflowerseed is crushed mainly for oil and not for cake, it is of vital importance that a maximum oil yield should be obtained from the seed. It is hoped that seed strains with a higher oil yield will be produced soon.

The above is a rough outline of how the Republic of South Africa produces, stores and markets its main oilseed crops, peanut and sunflowerseeds.

### REFERENCES

1. Board of Trade & Industries, "Edible Vegetable Oils, Hydrogenated Fats and Soap Industries of the Union" Report No. 338, p. 16., Dept. of Commerce and Industries, Pretoria, Union of South Africa, 1953.

## Fats and Oils Industry Responds to AOCS-ISF Appeal Funds Mount for Overseas Scientists

When the Joint World Congress of the International Society for Fat Research and the AOCS convenes in Chicago next October, high-level overseas participation will be a keynote, thanks to the generosity of industrial leaders throughout the field who recognize the value of this program.

Already nearly \$7,000 has been donated toward the travel and living expenses of selected overseas participants by:

Archer Daniels Midland Co.	Continental Can Company
Arkansas Grain Corporation	DuBois Chemical
Armour & Company	Farmland Industries
Armour—Dial Inc.	Hormel Institute
Armour Industrial Chemicals	International Milling
Ashland Oil & Refining Co.	Lever Brothers Company
Atlas Chemical Industries, Inc.	Proctor & Gamble Company
Best Foods Div.,	Quaker Oats Company
C.P.C. International	Upjohn Company
Cargill, Inc.	Votator Div.,
Colgate-Palmolive Company	Chemetron Corporation

The plan to insure maximum participation by qualified people from overseas also anticipated funding from the National Institute of Health. While the AOCS grant application was approved, this agency advised that it is unable to provide the funds. This was a serious setback to the plan, but not an insurmountable one. As reported in an earlier issue, the AOCS has earmarked an additional \$7,000 to supplement these efforts. This action plus the continued gratifying response from our industrial leaders has caused the Joint Congress Committee to be very optimistic.

Funds continue to be needed. If the reader wishes to interest his company in this project, complete information can be had by calling (collect) C. H. Hauber, AOCS Executive Director, (312) 782-2455. Your assistance will be greatly appreciated.