

flats or styrofoam blocks should not be resting on the soil. If they do, the tap root is not air pruned, but it penetrates and continues to grow into the soil, and few if any side roots develop.

Planting in large containers, e.g., gallon pots, appears to be unnecessary unless the plants are to be kept in them for 5-6 months prior to transplanting. Jojoba is susceptible to root rot (*Phytophthora parasitica*) in the very early seedling stage. Therefore, the soil should be sterilized before it is used in the potting mix. Overwatering and high temperature increase the severity of this disease.

In summary, the establishment of commercial plantations of jojoba does not present any problem in terms of agricultural methodology or specialized equipment. Of particular significance may be the choice of locations for the first commercial plantations. Although jojoba is not

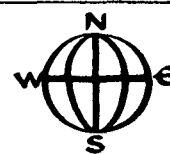
very demanding in terms of soil fertility, water quality and altitude, it might be a mistake to start plantations in locations where environmental stresses often reach extreme levels. It may be wiser to locate plantations where environmental factors offer the best chances of success and then explore progressively the ability of jojoba to produce, not merely survive, under more extreme environmental stresses.

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[Received July 7, 1978]

Four Corners



Chairman, International Relations — Eugene Marshack • Corresponding Secretary — R.F. Kohlman

Brazil R.F. Kohlman

XI International Nutrition Congress

Aug. 27 to Sept. 1, 1976

This International Congress took place for the first time in Brazil, in the city of Rio de Janeiro. The premeeting estimate of 3,000 participants was surpassed by 100%, and the huge number of last minute registrants, besides causing some organizational difficulties, contributed to the success of the event.

Oil and derivatives in Brazil

Brazil has long been self-sufficient in oilseeds, and has become a very important exporter in this field. The main raw materials are peanut, cottonseed and soybean. The figures for 1978 and projected for 1980 look as follows:

Crop Estimates	1,000 Tons	
	1978	1980
Peanuts	300	520
Cotton seed	880	1,200
Soybeans	8,100	15,000

The really important seed is soybean. The 1978 crop yield was small due to adverse weather conditions, but the growth of the crops will continue without interruption, increasing to about 15 million tons in 1980. Babassu has made no significant progress. Palm plantations continue in their infancy, peanuts remain steady, with some renewed growth for cottonseed.

Local crushing may be estimated at 7.4 million tons in 1978 and around 9.6 million tons in 1980, leaving an important bean export surplus.

The total crushing capacity installed in Brazil is estimated at approximately 18 million tons per year, thus exceeding by far the available raw material. This fact is leading to the closing down of small and uneconomic factories in favor of 1,000 ton and larger plants, which operate more efficiently. These factories are extremely modern, with some equipment of either European or American origin, and most made in Brazil. Many plants are also complemented by a refinery.

Incidentally, Brazil is following the same trend as the USA, where the number of plants is decreasing, while their individual crushing capacity is growing.

The local market absorbs presently around 1 million tons of refined oils, (roughly 2% of the oil world production) of which 800,000 are sold as edible oils, 200,000 as margarine and 90,000 as shortening. In other words, total per capita consumption of vegetable oils in all forms is around 8.5 Kg. Furthermore, the local market still absorbs most other derivatives and by-products such as stearic acid, glycerine, lecithin, isolated and concentrated protein, textured protein, soybean milk powder, etc., and, of course, part of the soybean extractions.

Interestingly, all edible oils sold in the country are filled in metal cans, while shortening and margarines are packaged in all sorts of containers, like metal, paper and plastics. All packaging material is produced in Brazil. Into the export market go, in order: soybeans, soybean extractions, some peanut oil, or soybean oil, lecithin and proteins.

But not only products are being exported. Brazil is also now an exporter of equipment like dryers, expeller presses, soybean cleaning and preparation machines, grain extruders and many others. And in the past years technology has also been sold. Thailand's most important oil factory and refinery, commissioned early this year, was planned, built and started with Brazilian technology from the Sanbra firm.

While basic research in the edible oil field is unimportant in Brazil, most R&D effort goes into applied technology, mainly for developing new products and improving the existing ones. Official institutes devote sporadically some works to this field, but none of them with exclusive dedication.

The Ministry of Industry and Trade maintains the National Institute of Technology in Rio de Janeiro, the Ministry of Agriculture operates the Institute of Food Technology in Rio de Janeiro, while the State Government of São Paulo runs the Institute of Food Technology in Campinas, which is by far the most important of all institutes. In the same city we must mention the State Faculty of Food Technology and also a related foundation, which occasionally are used by the oil industries for complementing research or analytical jobs.

U.S. soybeans may set record again

The United States' soybean supply for the marketing year 1978/79 probably will be a record 1.9-plus billion bushels, with markets expected to continue strong particularly until the South American soybean harvest begins in February and March.

On Oct. 11, the U.S. Department of Agriculture revised its soybean crop prediction upward to a record 1.79 billion bushels, about 1 per cent above the previous estimate made in September. It was only the third time in the past eight years the October estimate was an increase over September's. During the past decade, the average change between the October estimate and the actual harvest has averaged 2 per cent and has rarely been over three per cent.

In September, the USDA had revised its estimate of carryover soybeans to 159 million bushels, about 25 to 30 million bushels more than had been anticipated.

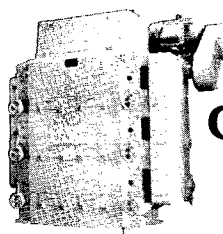
"World oilseed output should be up sharply in 1979, mainly because of the large harvest underway in the United States and prospects for planting increases in Brazil and Argentina," J. Dawson Ahalt, acting chairman of USDA's World Food and Agricultural Outlook and Situation Board, said in remarks prepared for delivery in late September. "But consumption — especially of protein meal — should continue to rise, led by gains in the United States, Japan, and Europe."

The American Soybean Association's Soybean Digest said in October that nearly all of the anticipated increase in 1978/79 world vegetable oil production and about 80 per cent of the increase in protein meal output will result from crop expansion outside the United States.

Other factors being mentioned in mid-October as possibly affecting the 1978/79 year included reported problems in the Soviet sunflower harvest and dry weather at planting time in Brazil.

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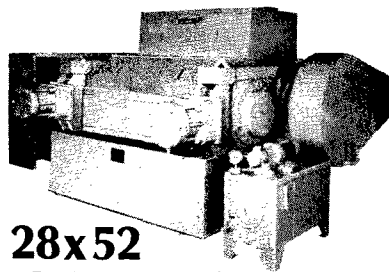
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Meshnick receives Northeast award

Daniel J. Meshnick, an AOCs member since 1966, received the 1978 Achievement Award of the Northeast Section of the AOCs.

Meshnick, of PVO International in Boonton, has served as an officer in the section and has been very active in local activities. The award is presented to persons who have made major contributions to the field of fats and oils and to the Northeast Section.

Morck new president-elect of AACC

Roland A. Morck, vice president of research for Nabisco, Inc., has been named president-elect of the American Association of Cereal Chemists, to succeed current president Lawrence F. Marnett of C.J. Patterson Co., in 1979.

Other newly elected AACC officers are John F. Konecny of Centennial Mills, treasurer; and Donald K. Cubois, American Institute of Baking, national director.

Timetable delayed

Replacement of petrochemically derived products by similar products made from natural sources, such as animal and vegetable fats and oils, will become practical about the turn of the century, according to the Fourth Survey of Technological Breakthroughs compiled by McGraw-Hill's Economics Department.

The previous survey three years ago had forecast such a breakthrough in the 1980s. Other forecasts in the survey: chemical processing plants designed for zero pollution by the year 2000; nonpetroleum automotive fuels in use by 2002; and modification of weather by 2025. For further information about the report, contact McGraw-Hill Publications Company, Economics Department, 1221 Avenue of the Americas, New York, NY 10020.