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Tomatoes are grown principally on the islands of Gran Canaria (3,683 hectares), Tenerife (2,147 hectares), and Fuerteventura (500 hectares). The area planted to tomatoes declined until the late 60's and has remained rather constant since 1968-69, as can be seen in Table 1.

RESOURCES AVAILABLE

Gran Canaria--

Land: There is no shortage of land in Gran Canaria. There are many fields cleared and supplied with permanent irrigation ditches constructed of rocks and concrete, ready for planting. Many of the fields are located on steep slopes and on the brows of hills, but erosion is not a problem with such sparse rainfall.

Labor: There is presently an abundance of farm labor on the island, due principally to the fall-off in construction activity for the tourist industry.

Water: The single limiting resource on Gran Canaria is water. The storage of underground water from rainfall is the only source of water. Rainwater (170 mm. per year) percolates down through the porous upper layers of rock and is trapped by less permeable layers below. The water is accessed by wells which average 200 meters in depth. More water is being taken out than is being replenished by rain. It is reported that the water table

Table 1: Area Planted to Tomatoes in Gran Canaria and Tenerife, Canary Islands.

Year	Gran Canaria	Tenerife	TOTAL
	(hectares)		
1964-65			
Oct.-Dec.	1,500	350	10,850
Jan.-Jun.	6,000	3,000	
1965-66			
Oct.-Dec.	1,200	400	9,400
Jan.-Jun.	5,000	2,800	
1966-67			
Oct.-Dec.	1,000	350	8,450
Jan.-Jun.	4,500	2,600	
1967-68			
Oct.-Dec.	1,000	300	7,100
Jan.-Jun.	3,500	2,300	
1968-69			
Oct.-Dec.	300	500	5,900
Jan.-Jun.	3,000	2,100	
1969-70			
Oct.-Dec.	600	400	6,730
Jan.-Jun.	3,530	2,200	
1970-71			
Oct.-Dec.	850	500	8,030
Jan.-Jun.	4,280	2,400	
1971-72			
Oct.-Dec.	630	400	6,854
Jan.-Jun.	3,621	2,203	
1972-73			
Oct.-Dec.	500	400	6,420
Jan.-Jun.	3,570	1,950	
1973-74			
Oct.-Dec.	450	409	5,479
Jan.-Jun.	2,700	1,920	
1974-75			
Oct.-Dec.	700	490	5,759
Jan.-Jun.	2,500	2,069	
1975-76			
Oct.-Dec.	800	600	5,713
Jan.-Jun.	2,400	1,913	
1976-77			
Oct.-Dec.	964	600	5,898
Jan.-Jun.	2,596	1,738	
1977-78			
Oct.-Dec.	950	550	5,859
Jan.-Jun.	2,727	1,630	

Source: Ministerio de Agricultura, Anuario de

is dropping 15 meters per year. Many bananna plantations have been abandoned in recent years and some of this land has been planted to potatoes, which uses less water.

The water is controlled by cooperatives or private owners who sell water to growers. If a grower is a member of a coop he can buy water in quantities related to the number of shares he has in the coop. Some producers sell their water rights to others at times, the price varying greatly by season and locality. Reported prices range from 25-60 pesetas per cubic meter. The Centro de Investigacion Economica y Social[1/] reports that water costs constituted 21 percent of the cost of production of tomatoes in 1975.

Tenerife: There is no shortage of land in Tenerife. The limiting resource is water. Most of the water is found by boring tunnels into the sides of mountains where water is stored in underground reservoirs (supplied by the percolation of rain water). Rainfall averages 250 mm. per year in Tenerife, but is still insufficient to fulfill the needs of the island. It is reported that 20 percent of the water used each year comes not from current rainfall, but from non-renewable past collections. The supply of water varies greatly depending on locality. Some valleys are well supplied and are planted to banannas for export to the mainland. Some valleys have little water and support little agriculture. In general, the problem of water on Tenerife is less severe than on Gran Canaria. However, it is predicted that bananna production (a heavy user of water) will diminish drastically if tomato production is to be maintained.

Most of the tomatoes are produced by small producers of less than a hectare. About 70 percent of total production of tomatoes on Tenerife is through cooperatives. About 50 percent use drip irrigation. The potential water savings through changed production practices is slight.

Cultural Practices

There are about 300 hectares of tomatoes under plastic in Gran Canaria, and slightly less in Tenerife. Most of the tomatoes are planted in the open air. Cultural practices are much the same as on the mainland. Low temperatures are much less troublesome in the Canaries, and plastic is not necessary for maintaining temperatures during critical periods in plant growth, as is the case in Murcia. However, wind damage and scarring of fruit is serious in the Canaries, and plastic is useful in reducing problems due to wind damage. Only about 60-65 percent of the total open-air production is of exportable quality, and there is no domestic market for the non-exportable qualities, so it is destroyed.

The new variety, Estrella, is purchased as seed from the Netherlands at 400,000 pesetas per kilogram, and is resistent to Fusarium 1 and 2, Verticillium wilt and Tobacco Mosaic Virus (TMV).

In Tenerife about 40-50 percent of the tomatoes are irrigated by drip, and the remaining acreage by flood. The government subsidizes installation of drip equipment by paying 30 percent of the installation cost and loaning the remaining 70 percent at 11 percent interest, with no payment for three years.

The method of staking open air tomatoes is the same as in the mainland.

Producers in Gran Canaria are larger than producers in Tenerife and use better cultural practices. Yields were 38 tons per hectare in Gran Canaria in

1977-78 compared with 25 tons in Tenerife.[1/] Yields are lower in both islands than on the mainland (64 tons in Alicante, 58 in Murcia, etc.). Producers in Tenerife do not have a domestic market for non-exportable qualities, so the producers have a further disadvantage, as compared with producers in populous countries.

Most of the smaller producers in the Canaries operate at a rather low level of profitability. A cost of production budget is presented in Table 2.

Exports of Canary Tomatoes

As seen in Table 3, most of the Canary tomatoes are sent to the UK and the Netherlands. The tomatoes sent to the Netherlands are re-exported by Dutch exporters to various European countries. The December to March period is the heavy exporting season. (Table 4)

Exports are packed in corrugated cardboard boxes of 6 kgs. net weight. Transportation to the U.K. is by ship (mostly palletized) and costs 80 English pence per box (150 pesetas per box) to the dock in England or Rotterdam. After reaching the dock, the tomatoes must be unloaded, cleared through customs and transported by truck to the market at a cost of 60 English pence per box (120 pesetas).

[1/] Anuario de Estadistica Agraria, 1978.

Table 2. Costs of Producing and Exporting Tomatoes in Open Air, Canary Islands

Item	Cost (pesetas per hectare)	(pesetas per box) of 6 kgs.
Notes		
(1) Land Rent	40,000	
(2) Water	210,000	
(3) Labor	720,000	
(4) Fertilizer	100,000	
(5) Pesticides	150,000	
(6) Interest	100,000	
(7) Administration	60,000	
TOTAL	1,380,000	
Assumed Yield 50 m.t. per hectare		165
Packing cost		100
Shipment to English port		150
Unload and transport to market		120
Commission		62
Tariff		34
TOTAL		631

Table 3: Tomato Exports from the Canary Islands, by Countries

Country	1975-76	1976-77	1977-78	1978-79
Germany	300	77	181	1,802
Belgium	4	396	790	362
Denmark	1,719	1,496	1,175	1,283
Finland	59	1,784	1,094	1,017
France	2,842	2,582	4,380	7,158
Netherlands	37,477	42,051	54,450	54,523
Italy	29	69	103	1,232
Norway	1,691	1,308	1,120	1,584
U.K.	71,634	67,642	78,095	75,078
Sweden	7,412	8,722	7,794	7,154
Switzerland	-	-	-	416
Others	33	536	76	95

Source: Ministerio de Agricultura, Direccion General de la Produccion Agraria, Servicio de Inspeccion Fito patologica, Tomates: Informe-Resumen de la Campana de Exportacion, 1978-79. Madrid, Nov. 1979.

Table 4. Tomato Exports from Canary Islands, by Months

Month	1975-76	1976-77	1977-78	1978-79
September	-	1	7	7
October	807	659	938	507
November	7,461	7,841	9,135	7,614
December	20,620	20,364	22,908	23,644
January	28,486	26,674	30,959	28,067
February	26,587	31,145	40,074	37,746
March	26,257	28,828	31,164	33,890
April	11,805	9,391	11,612	14,638
May	1,177	329	2,461	5,584
TOTAL	123,200	125,232	145,298	151,704

Source: Ministerio de Agricultura, Direccion General de la Produccion Agraria, Servicio de Inspeccion Fito patologica, Tomatoes: Informe-Resumen de la Campana de Exportation 1978-79. Madrid, Nov. 1979.

Outlook for Canary Island Tomato Exports

The Canary Islands have two serious problems which will combine to reduce exports in the future. The first problem is the shortage of water. It is felt that in Gran Canaria, where the water shortage is most severe, tomato production will be eliminated entirely. The water table is dropping and urban and industrial uses are already using as much water as is agriculture. In Tenerife it is felt that tomato production can be maintained, as far as water is concerned, but that expansion is unlikely. More water is presently being used than is being replaced, but with better water conservation and collection procedures it would be possible to maintain current levels of tomato exports.

The second problem is more serious and affects both islands, namely the competition from mainland producers. It is cheaper to produce tomatoes on the mainland (400 pesetas per box, as compared with 631 pesetas in the Canaries), and with no restrictions on mainland production it is likely that quotas for mainland producers will gradually increase relative to quotas from the Canaries. Already Canary producers are attempting to shift from tomatoes to flowers in an attempt to maximize the income per unit of water.

It is likely that tomato exports will decrease by 25-50 percent in the next few years, the largest part of the decrease occuring in Gran Canaria.