

REVIEW

Status of Horticulture in Northern Tamaulipas, Mexico

Arturo Diaz Franco and Fidencio Leal de la Luz

Campo Experimental Rio Bravo, Apdo. 172 Rio Bravo, Tamps. 88900

During the past twenty years the most important crops in northern Tamaulipas have been sorghum, corn and dry beans, which are planted on one million hectares (irrigated and dry land); sorghum however, has been predominantly grown on dry land. In the last few years, these crops have had production problems due to aflatoxins (*Aspergillus flavus* Lk.) present in corn kernels (Rodriguez and Loera, 1990) and charcoal rot, *Macrophomina phaseolina* (Tassi) Goid, in sorghum (Rodriguez *et al.*, 1990) and dry beans (Diaz and Cortinas, 1988). Consequently production of these crops is becoming nonprofitable.

Vegetables represent a cropping alternative that may be more profitable than grain crops in some areas. In irrigated areas (300,000 ha) supplied by water from the Rio Grande or underground wells it is possible to produce vegetables in over 50,000 ha (Loera and Martinez, 1987). More than fifteen different vegetables have been produced in northern Tamaulipas; during the last six years, and the vegetables which have prevailed are: okra, southern pea, summer squash, melon, tomato, watermelon, pea and pepper. The average number of hectares under vegetable production has been 7,778 ha (Table 1). In general, Mexico's vegetable exports are to the U.S. through contracts with companies in the Rio Grande Valley, Texas that establish the crop area, production, as well as market price variations at harvest. These companies also provide advisory technical support during crop development through harvest and in some cases, financial support. The vegetable producers have on their land an infrastructure that makes possible water availability, quality manual labor from seed to harvest, accessible communications and an appropriate transportation system to move the products.

Vegetables for exportation are okra, southern pea, summer squash and pea. Briefly described are these three principal vegetables.

Okra (*Abelmoschus esculentus* L. Moench) has been grown for the last twenty years in the Rio Bravo and Matamoros area.

This region represents 70% of national production area and 83% of national okra exportations (CNPH, 1990). 'Clemson Spineless' is the most widely grown variety and the planting time is from February to May, although some plantings are done after May. The yields are in the range of 5-7 ton/ha and the market price of the fruit is about 25 cents (U.S.) per kilogram.

Southern pea (*Vigna unguiculata* (L.) Walp.) is the second most produced vegetable, and Tamaulipas may be the only region with commercial production. In the Yucatan, the production of southern pea is for local consumption (Laris, 1991). Southern peas are grown mainly in Rio Bravo and Valle Hermoso area, and varieties usually planted are: 'Pinkeye Purple Hull', 'Mississippi Silver' and 'Coronet'. Planting time is from August towards the middle of September. Yields of 1.5-3 ton/ha of marketable pods can be produced. Market price is between 25 cents to 50 cents (U.S.) per kilogram and is dependent on the pod color.

Summer squash (*Cucurbita pepo* var. *meloepo* (L.) Alef.) mainly grown in Sonora with 3,500 - 4,000 ha for exportation. Northern Tamaulipas is the second national region for summer squash production and Rio Bravo and Matamoros are the main production areas. The most commonly planted varieties are 'Onyx', 'President', 'Yellow Sunre 9655' and 'Gold Slice'. Summer squash is planted at two different times, in February and March (80% area) and in August (20% area). Yields are between 7 to 10 ton/ha and the fruit market price is about 17 cents (U.S.) per kilogram. During the fall of 1990, high whitefly populations were observed in the region and summer squash exhibited a high intensity of silver disease (Amador and Scully, 1990; Diaz, 1992). In the spring of 1991 whitefly was also observed, and summer squash showed high incidence of plants with virus symptoms (Diaz, 1992). Summer squash production may be reduced if the whitefly level remains high. Whitefly also has caused damages in tomato, cucumber, melon and pepper; whitefly damage in okra and southern pea are unknown.

Table 1. Hectares of the most important vegetables in Northern Tamaulipas during six years*.

Vegetable	1986	1987	1988	1989	1990	1991
Okra	1996	3796	3545	2748	3500	4800
Southern Pea	1640	1395	1383	2635	3736	1080
Summer Squash	560	620	750	1330	1750	1210
Melon	709	247	471	207	498	5
Tomato	368	369	426	140	266	236
Watermelon	958	300	339	234	514	111
Pea	120	689	20	78	258	35
Pepper	160	74	99	65	128	73
T O T A L	6511	7490	7033	7437	10650	7550

*Source: Statistics SARH/Tamaulipas Norte.

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