BRUSSELS SPROUT PRODUCTION IN THE CENTRAL COAST DISTRICT - 1985

N.C. Welch, Farm Advisor, Santa Cruz County
R.H. Sciaroni, Farm Advisor, San Mateo County

The coastal district of California from Half Moon Bay to Castroville produces 95 percent of the nation's crop of Brussels sprouts. Annual plantings range from 5,500 to 6,000 acres and are valued at $6 to $7 million.

REQUIREMENTS: Brussels sprouts grow best in well drained, fertile soils that are free from salt and alkali. Soil pH ranging from 6.5 to 7.4 is preferred by this crop. Brussels sprouts, like other members of the cabbage family, reach best quality if the crop develops and matures during cool weather. A four to five month period before harvest, with relatively cool temperatures, is needed for development of high quality sprouts. Warm weather during sprout development may result in soft or loose sprouts.

PLANTING: Seed beds in this area are planted from February to May. Plants are then transplanted, with the aid of 3 or 4-row transplanters, into fields beginning in April. One pound of seed is planted for every 4 acres to be transplanted. Harvest begins about 120 days later, depending upon the variety planted. First harvest usually begins in late August and continues until February, with peak production from September to late November.

IRRIGATION AND FERTILIZATION: Immediately following transplanting, the fields are sprinkler irrigated. Sprinkler irrigation is then continued every 14 to 18 days until harvest, for a total of seven to nine irrigations, depending upon which variety is used. Single harvest varieties are usually not irrigated within two to three weeks of harvest to prevent development of soft and/or tender sprouts. A complete fertilizer, usually 12-12-12 at the rate of 1,000 pounds per acre, is side dressed in before planting. Most of the varieties will receive an additional 100 pounds of nitrogen per acre as a side dressing or in the irrigation water. Many fields of sprouts will receive annually 200 pounds nitrogen and 4 to 6 yards of manure. Minor elements are applied to some of the sprout fields.

VARIETIES: Valiant and Lunet are the main varieties used for single harvest. Some acreages of Oliver and Rampart are harvested for fresh market. Oliver, Rampart and Lunet are varieties that can be harvested once or twice by hand then machine stripped for late winter fresh market harvest. Sprouts grown for freezing must be round to fit freezer recutting machinery.

HARVEST: Single harvest plants have their terminal growing point removed about 6 to 7 weeks before harvest. The leaves are removed just prior to harvest by using a knife. Harvest is accomplished by cutting stalk by hand or with a rotary knife. These stalks are then run butt end first through a rotary knife with fixed blades. The harvested sprouts are conveyed into a trailer for transport to an on-farm cleaning shed.

Harvest machine costs vary from $20,000 to $40,000 depending upon size and if machines have rotary saws to cut stalks.

CLEANING: Sprouts in trailers are hauled to central sheds and sized and cleaned with the use of roller cage drums, and then hand sorted. The cost of cleaning varies greatly, depending upon where performed, yield, incidence of decay, and other defects. Total harvest and cleaning costs vary from 4-1/2 to 6-1/2 cents per pound. Costs rise rapidly when yield goes below 6 tons per acre.

PESTS: Plants are attacked by a number of diseases and insects. Clubroot, verticillium, and blackleg are three serious soil-borne diseases. Aphids, cabbage maggot and a variety of worms can cause severe losses in this crop. Nematodes are a problem in many soils in this area. Proper fumigation can reduce nematode population and improve yields. For the latest pest control measures, contact your local farm advisor's office.

Yield 7 Tons, Plant Spacing 18" x 3', 100 Acres Single Cropped

	Hours Per Acre				Cost per Acre
	Man Labor	40 hp Track	30 hp	Truck Pickup	
CULTURAL					
Land Preparation	6	4.0	2.0	1.0	108.36
Fumigation contract, 1 time					10.00
Growing plants (includes fumigant, seed, fertilizer, and pest control)					126.94
Pull plants	17				107.10
Transplant & Irrigation	15		3.2		112.67
Cultivation, 3 times	4		4.0		47.92
Irrigate, 8 times	17		2.0	3.0	125.66
Fertilize, 1 time, contract @ 10.50					10.50
Pest Control, 7 times, contract @ 11.00					77.00
Disc, 2 times (cleanup)	2.5	2			44.15
Miscellaneous work	3	0.2	0.3		23.44
TOTAL CULTURAL	64.5	6.2	7.5	4.0	$ 793.74
MATERIALS					
Irrigation power to pump + boost					63.00
*Soil fumigation					120.00
Fertilizer (12-12-12 1/2 + 400# $(NH_4)_2SO_4$ + lime 2 tons + manure)					255.00
Pest control materials					228.00
TOTAL COST OF MATERIALS					666.00
TOTAL CULTURAL AND MATERIALS COST					$1459.74
CASH OVERHEAD					
General expense, camp office, car, etc. (5% estimate of above)					75.43
Management					85.00
Interest on production loan (est. 1/2 working capital)					63.00
Repairs					74.30
Rent					200.00
TOTAL CASH OVERHEAD					497.73
TOTAL CULTURAL-MATERIALS-CASH OVERHEAD					$1957.47
DEPRECIATION					
Irrigation equipment					17.30
Tillage equipment, etc.					18.20
Buildings and shop					16.40
TOTAL DEPRECIATION					51.90
INTEREST ON INVESTMENT 14% for $300/Acre partial depreciation					35.00
TOTAL COST UP TO HARVEST					$2044.37
HARVEST					
Top	8			1.0	52.80
Harvest, deleaf, strip and clean, 5¢/lb					700.00
TOTAL HARVEST COST					752.80
TOTAL COST - Cost per pound 20¢/lb - on farm cost					$2797.17

Labor costs hourly rates, including Social Security, unemployment, health insurance, compensation insurance and camp facilities: labor, $6.30; cash cost per hour for a 40 hp crawler diesel tractor, $14.20; 30 hp gas wheel tractor, $5.68; 1/2-ton pickup, $2.40.

* In San Mateo County the fungicide PCNB is applied for clubroot disease control at the time of fumigation. The additional cost for PCNB is about $155 per acre.