

Spinach at Retail

study of fresh packaged and bulk spinach compared quality and price

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A total of 428 samples of packaged spinach and 346 samples of bulk spinach were examined in a laboratory study to determine extent and character of defects and the relative price of the edible spinach.

The samples of fresh spinach were purchased in Berkeley retail stores at weekly intervals for a period of one year.

Bulk spinach studied was, on the basis of the annual average, better in quality than the packaged spinach. Approximately 39% of the bulk and 28% of the packaged spinach were classed as sound—usable—product. The packaged spinach contained about 27% waste whereas the unusable portion of the bulk spinach was about 18%. Almost 40% of the packaged spinach was unusable but not to the extent that it was unusable and about 36% of the bulk spinach was of this nature. Altogether 67% of the packaged spinach and 53% of the bulk spinach were judged to be defective.

The quality of both the bulk and the packaged spinach varied from month to month during the year. The greatest difference between the two types was in August when the proportion of unusable product in the packaged spinach was 39.4% while in the bulk spinach it was 20.5%. The smallest difference was in November when 19.6% of the packaged spinach and 18.7% of the bulk spinach were unusable.

The average proportion of sound spinach without any defects was higher in bulk than in packaged spinach in all months except in November when the proportion was 38% for packaged and 33% for the bulk spinach.

The size and type of store in which the spinach was purchased seemed to affect somewhat but not greatly the quality of both bulk and packaged spinach. Although the differences were very small the proportions of sound product were somewhat smaller in the small stores than in the medium ones and smaller in the medium than in the large stores.

The defects of the spinach—bulk or packaged—were broken down into five groups: 1, crushed and broken leaves and stems; 2, wilted leaves; 3, yellow leaves; 4, insect damaged leaves and stems; and 5, decayed and moldy leaves and stems. Degrees in all these defects except decayed and moldy parts were indicated by

classing them as unusable or as defective but usable.

Crushed and broken stems and leaves were the most common defects in both packaged and bulk spinach. Yellow leaves were the next most important in the portion which was unusable. Insect damaged parts were next most important in the defective but usable portion. Insect damaged and decayed parts were also important in the unusable portion.

Character of Defects in Unusable and Usable Defective Bulk and Packaged Spinach

Defects	Annual Averages			
	Percent Unusable		Percent Defective but Usable	
	Packaged	Bulk	Packaged	Bulk
Total	26.9	17.7	39.9	35.6
Crushed and broken leaves and stems	12.3	7.3	18.4	15.6
Wilted leaves	2.1	0.5	4.3	2.0
Yellow leaves	4.8	3.9	5.3	5.3
Decayed leaves	3.7	2.9
Insect damaged leaves and stems	4.0	3.1	11.9	12.7

The average retail price per pound of the packaged spinach as it was purchased was 30.6¢ and that of the bulk was 16.1¢. The latter price was determined after the roots were removed to make the character of the bulk spinach more comparable to the packaged spinach.

Since a portion of the spinach was not usable as purchased the real price was affected by the unusable portion. Therefore the price per pound was determined on the portion which was edible.

The average price per pound of the edible spinach purchased in packaged form in this study was over twice that of the bulk; the former was 41.9¢ per pound and the latter was 19.6¢.

The average price of the edible spinach purchased in bulk was 3.5¢ higher per pound than the average price as purchased. The average price of the edible spinach purchased in packages was 11.3¢ higher than the price per pound as purchased.

The average retail price of the bulk spinach varied from month to month a great deal more than that of the packaged spinach. The variation of bulk spinach was over three times that of the packaged

spinach. The former varied from 13.1¢ per pound in September to 24.8¢ in February while the latter varied from 28.8¢ in April to 32.2¢ in February.

The average monthly price of the edible packaged spinach ranged from a low of 36.6¢ in December to a high of 50.3¢ in August. The lowest average monthly price of the edible spinach purchased in bulk was 16.0¢ reached in September while the highest price was 29.3¢ reached in February.

Per Cent and Price Per Pound

	Annual Averages	
	Packaged spinach*	Bulk spinach*
Sound	27.9%	39.4%
Defective Usable	39.9%	35.6%
Unusable	26.9%	17.7%
Price per pound as purchased	30.6¢	16.1¢
Price per pound of edible portion	41.9¢	19.6¢

* Loss of 5.3% in packaged spinach and 7.3% in bulk from evaporation and handling in the laboratory.

The season during which the greatest difference between the prices of edible spinach purchased in packages and in bulk began with March and continued through October. August and September showed the greatest differences. The smallest differences in prices were from November through February.

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the average price could have been 20¢ less than the realized average of 68¢.

The order at least made the price higher in some seasons than it would have been without the control program. However, there is evidence that the higher prices have induced some growers to expand acreage and production and have induced other growers to begin producing hops. This had led to an expansion of production which, in combination with a static or decreasing consumption, has resulted in continuation of a problem for whose solution the control program was originally introduced.

For those years when yields are extremely large, some control over salable quantity may be desirable to avoid superabundant stocks forcing down the price erratically for the following season. These seasons where control of salable quantity is required, however, should be the exception rather than the rule.

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