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EFFECT OF COLD STORAGE AND DIFFERENT PACKAGING MATERIALS ON THE QUALITY OF FRESH ROSEMARY HERB: I- EFFECTS ON MARKETING VISUAL QUALITY AND SHELF-LIFE

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ABSTRACT

Fresh culinary herbs are one of the fastest growing markets for gourmet production on a world wide scale. Some herbs are sold fresh rather than dry because they do not retain their flavor when dried. Rosemary (*Rosmarinus officinalis*, L.) plant is an important aromatic culinary herb.

A study was carried out during two successive summer seasons 2006 and 2007, at the Post Harvest Lab in the Veget. and Flor. Dept., Fac. of Agric., Monsoura Univ. Fresh rosemary herbs were packaged in nine different packaging materials: Butter bags (P1), Cellophane bags (P2), Nylon bags (P3), Polyethylene bags (P4), Aluminum foils (P5), Aluminum plates covered with foil (P6), Aluminum plates covered with plastic film (P7), Foam plates covered with foil (P8), Foam plates covered with plastic film (P9). The packages were stored at (room atmosphere, 1, 3, and 5 °C) for 6 weeks.

This study was conducted to study the effect of cold storage and different packaging materials on the quality of rosemary fresh herb.

This part (I): aimed to investigate the effect of cold storage temperatures and different packaging materials on the marketing visual quality and shelf life of fresh rosemary herb.

The results showed that increasing storage period resulted in increasing of the fresh weight loss and decreasing the total chlorophyll content. While, the shortest storage period of the herb, the less the changes in their fresh weight, and the slowest the chlorophyll degradation.

Herbs kept in Butter bags (P1) lost their fresh weight faster and sharper than those kept in other packaging materials, while those in Aluminum foils (P5) were the least to lose weight and had steadier pattern than the other packaging materials. Herbs kept in Butter bags (P1) and Foam plates covered with plastic film (P9) had lower chlorophyll content than other packages.

At the end of the storage period (after six weeks), herbs kept in Aluminum foils (P5) and Aluminum plates covered with foil (P6) had the least fresh weight loss percentage, and the highest chlorophyll content in both seasons. It is also clear that Aluminum foils (P5) and Aluminum plates covered with foil (P6) kept the chlorophyll content of the herb at high values for long period especially at 1°C.

The shelf life of the three storage temperatures varied slightly among each other's but significantly with room temperature, with favor to the lower cold temperature. The worst package was Butter bags (P1) in both summer seasons. Aluminum foils (P5), Aluminum plates covered with foil (P6), and Foam plates covered with foil (P8) had longer shelf life than other packaging materials.

Summing up all factors, herbs in Aluminum foils (P5) and Aluminum plates covered with foil (P6) stored at 3 °C maintained their fresh weight, chlorophyll content, and achieved longer shelf-life than other treatments in both seasons.