

ANTIBRÄUN™

CITRUS-LEMON EXTRACTS



KEY BENEFITS

- Moisture retention
- Anti-staling
- Anti-browning
- Color stabilization
- Longer freshness
- Natural, clean label

NATURAL ANTI-BROWNING AGENT

The market for fresh-cut fruits and vegetables has grown rapidly in recent decades as a result of their freshness, convenience, and human health benefits. However, fresh fruits and vegetables deteriorate very rapidly after processing, especially cut-surface browning resulting from wound-induced physiological and biochemical changes. The quality of fresh-cut fruits and vegetables determines the value to the consumer and is a combination of parameters including appearance (size, shape, color, gloss and defects), texture (firmness, crispness and juiciness), flavor (sweetness, sourness, astringency and bitterness) and nutritional value (vitamins, minerals and dietary fiber). The application of anti-browning agents is one of the most effective methods for controlling the enzymatic browning reaction in fresh-cut fruits and vegetables.

Traditional anti-browning agents such as citric acid can cause the bitterness of fresh-cut fruits. Antibräun™ is natural lemon and citrus juice concentrate containing Bioflavonoids, Polyphenols, ascorbic acid and citric acid, which removes the bitterness-caused substances and retards the browning and microbial decay for freshness extension of fresh-cut fruits.

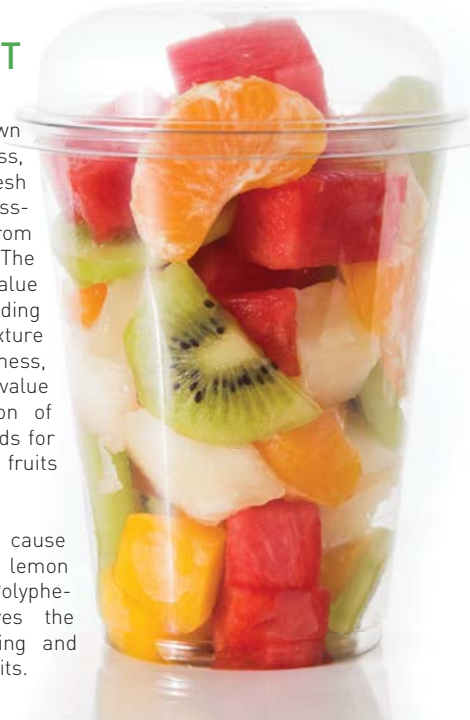


Table 1. Antibräun™ Applications

Ingredients	Applications		Benefits	Dosage
Antibräun™	Fruits and vegetables	Water chestnuts	Retard microbial decay and browning	1 g/kg
		Fresh-cut apples		1 g/kg
		Fresh-cut melon		1 g/kg
		Fresh cut pineapple		1 g/kg
		Grape		2 g/kg
		Fresh-cut mango		5 g/kg
		Fresh-cut lettuce		0.8-1 g/kg
		Fresh-cut cattail		1.5-2 g/kg
		Fresh-cut salad		0.8-1 g/kg

Fresh-cut Salads

The increasing demands of fresh-cut salads are due to their fresh-like characteristic, convenience, and human health benefits, but minimally processed products become more perishable. Figure 1,2 demonstrate that Antibräun™ effectively retards decrease of PPO activity, enzymatic browning and decrease decay rate of fresh-cut apples during storage.

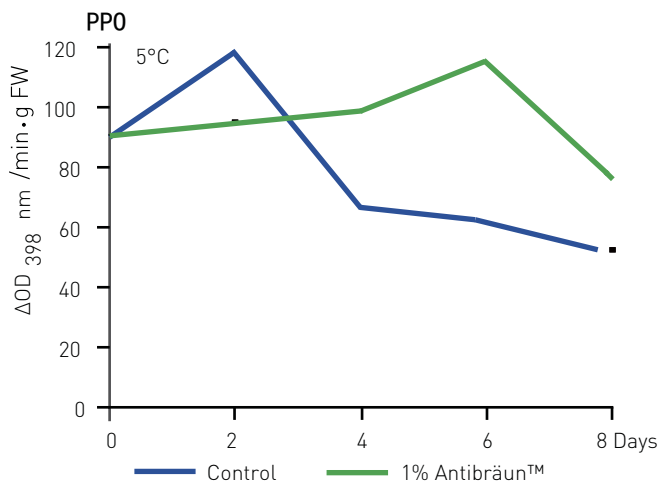


Figure 1 Fresh-cut Salads

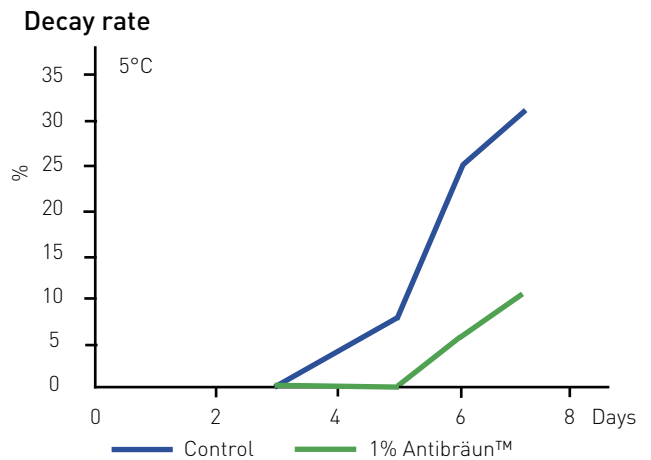


Figure 2 Fresh-cut Salads