



# vacuum impregnation to modify health-promoting properties of fresh-cut pears cv. D'Anjou

Raw Material	Composition of Vacuum Impregnation Solutions	Process Parameters	Effect
fresh-cut pears cv. D'Anjou	20% diluted wildflower honey solution with 0.4% to 0.8% α-tocopherol from 3 different sources: α-tocopherol-acetate (VEacetate), free α-tocopherol (V-OH), or water-soluble α-tocopherol-acetate (VE-H2O)	p1 10 kPa t1 15 min t2 30 min	vitamin E content of impregnated pears increased 80 to 100 times and 65% to 80% VE activities were retained during 2 week of storage

### **Flow Chart**

fresh-cut pears cv. D'Anjou Introduced into Vacuum Chamber

Hydrodynamic Mechanism (HDM) Vacuum Chamber at – p1=10 KPA Time period t1=15 min

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Deformation Relaxation Phenomenon(DRP) Vacuum Chamber at atmospheric pressure Time period t2=30 min

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## **Vacuum Impregnation Setup**



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#### **Result:**

Vitamin E content of impregnated pears increased 80 to 100 times and 65% to 80% VE activities were retained during 2 week of storage. For this purpose the authors applied vacuum impregnation in a 20% corn syrup solution. Lin et al. (2006) introduced vitamin E together with a 20% solution of polyfloral honey to the tissue of pears.

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