



vacuum impregnation to modify health-promoting properties of whole potatoes

Raw Material	Composition of Vacuum Impregnation Solutions	Process Parameters	Effect
whole potatoes	10% ascorbic acid solution	p1 9.33 kPa t1 0–60 min t2 3 h	after vacuum impregnation the ascorbic acid content of whole potatoes increased ten times (150 mg/100 g fresh weight)

Flow Chart

Whole potatoes
Introduced into Vacuum Chamber

Hydrodynamic Mechanism (HDM) Vacuum Chamber at – 9.33 KPA Time 1(t1) =0-60 minutes

10% ascorbic acid solution

Deformation Relaxation Phenomenon(DRP) Vacuum Chamber at atmospheric pressure Time 2(t2)= 3 Hours

Result: after vacuum impregnation the ascorbic acid content of whole potatoes increased ten times (150 mg/100 g fresh weight)

Vacuum Impregnation Setup



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Result:

After vacuum impregnation the ascorbic acid content of whole potatoes increased ten times (150 mg/100 g fresh weight). Hironaka et al. (2011) investigated the possibility to enrich whole potato tubers with ascorbic acid.

Burhani Hardware And Fittings