

Fruits, vegetables, meat

Procedure (Overview)

Freezing	Solidification range, Solidification point	Container for FD	Process A / B / C *	Vacuum primary drying
fruits, vegetables: -35°C; meat: -40°C	-25°C	dishes	B	$T_{ICE} = T_{EP} - 10^{\circ}C (= -35^{\circ}C)$ $P_{HT} = f(T_{ICE})$ → ice pressure curve = 0.220 mbar

Temp. of the shelves during primary drying (T_{sp}/t)	Duration of primary drying	Vacuum for secondary drying	Duration of secondary drying
fruits, vegetables: 0°C/4h, 10°C/4h, 20°C/16–24h meat: -10°C/4h, 0°C/4h, +10°C/4h, +20°C/12–24h	24–36 h	a question of cost, not usually needed	optional



Freeze-dried tropical fruits ›Arillex



External freezing of truffles in a freezer



A wide range of foodstuffs can be freeze-dried

Special features

- Meat is diced with a side length of about 1 cm
- The packaging for freeze-dried products must be impermeable to air, water vapour and gases

Additional information

- Freeze drying is viable if the price is more than Euro 10/kg (market price)
- Freeze-drying plants have an amortisation period of at least ten years
- Doubling the capacity reduces specific production costs by 10 to 20 percent
- A freeze dried product has ten times the aroma intensity of the same amount of fresh product

Uses of the freeze-dried products

- Fruits: Baby food, milk industry (adding aroma to milk products),
- Vegetables: Kitchen herbs
- Meat: only as flavour carrier (deep-frozen granules, or ground in a mill)

Typical users

- Food industry
- Drying specialists