

CPC**COOPERATIVE PATENT CLASSIFICATION****A23B**

PRESERVING, e.g. BY CANNING, MEAT, FISH, EGGS, FRUIT, VEGETABLES, EDIBLE SEEDS; CHEMICAL RIPENING OF FRUIT OR VEGETABLES; THE PRESERVED, RIPENED, OR CANNED PRODUCTS (preserving foodstuffs in general [A23L 3/00](#); preserving in general [A61L](#); applying food preservatives in packages [B65D 81/28](#))

A23B 4/00

General methods for preserving meat, sausages, fish or fish products

A23B 4/002

- . {Preservation in association with shaping ([A23B 4/0053](#), [A23B 4/01](#), [A23B 4/062](#) and [A23B 4/066](#) take precedence)}

A23B 4/005

- . Preserving by heating

A23B 4/0053

- .. {with gas or liquids, with or without shaping, e.g. in form of powder, granules or flakes}

NOTE

The heating means for the gas or liquid are not classified

A23B 4/0056

- ... {with packages, or with shaping in the form of blocks or portions}

A23B 4/01

- .. by irradiation or electric treatment {with or without shaping, e.g. in form of powder, granules or flakes}

A23B 4/012

- ... {with packages, or with shaping in the form of blocks or portions}

A23B 4/015

- . Preserving by irradiation or electric treatment without heating effect

A23B 4/02

- . Preserving by means of inorganic salts (apparatus therefor [A23B 4/26](#), [A23B 4/32](#))

A23B 4/021

- .. {with apparatus adapted for gaseous preserving agents}

A23B 4/023

- .. by kitchen salt or mixtures thereof with inorganic or organic compounds

A23B 4/0235

- ... {with organic compounds or biochemical products}

A23B 4/027

- .. by inorganic salts other than kitchen salt, or mixtures thereof with organic compounds, e.g. biochemical compounds

A23B 4/03

- . Drying; Subsequent reconstitution {(drying apparatus in general [F26B](#))}

A23B 4/031

- .. {Apparatus for drying ([A23B 4/037](#) takes precedence)}

A23B 4/033

- .. with addition of chemicals ([A23B 4/037](#) takes precedence)

A23B 4/037

- .. Freeze-drying, {i.e. cryodesiccation, lyophilisation; Apparatus therefor}

A23B 4/044

- . Smoking; Smoking devices

A23B 4/048

- .. with addition of chemicals other than natural smoke

A23B 4/052

- .. Smoke generators; {Smoking apparatus ([A23B 4/056](#) takes precedence)}

A23B 4/0523

- ... {Smoke generators using wood-pyrolysis or wood-friction}

A23B 4/0526

- ... {Smoke generators or smoking apparatus using liquid smoke in gaseous or

- liquid form}
- A23B 4/056 . . Smoking combined with irradiation or electric treatment, e.g. electrostatic smoking; {Apparatus therefor}
- A23B 4/06 . Freezing; Subsequent thawing; Cooling
- A23B 4/062 . . {the materials being transported through or in the apparatus with or without shaping, e.g. in the form of powder, granules or flakes (moving on the spot only [A23B 4/066](#))}
- A23B 4/064 . . . {with packages or with shaping in the form of blocks or portions}
- A23B 4/066 . . {the materials not being transported through or in the apparatus with or without shaping, e.g. in the form of powder, granules or flakes}
- A23B 4/068 . . . {with packages or with shaping in the form of blocks or portions}
- A23B 4/07 . . Thawing subsequent to freezing
- A23B 4/08 . . with addition of chemicals {or treatment with chemicals} before or during cooling, {e.g. in the form of an ice coating or frozen block}
- A23B 4/09 . . . with direct contact between the food and the chemical, e.g. liquid N₂, at cryogenic temperature
- A23B 4/10 . Coating with a protective layer; Compositions or apparatus therefor {([A23B 4/08](#) takes precedence)}
- A23B 4/12 . Preserving with acids; Acid fermentation
- A23B 4/14 . Preserving with chemicals not covered by groups [A23B 4/02](#) or [A23B 4/12](#)
- A23B 4/16 . . in the form of gases, e.g. fumigation; Compositions or apparatus therefor
- A23B 4/18 . . in the form of liquids or solids (apparatus therefor [A23B 4/26](#), [A23B 4/32](#))
- A23B 4/20 . . . Organic compounds; Micro-organisms; Enzymes (acid fermentation [A23B 4/12](#))
- A23B 4/22 Micro-organisms; Enzymes; {Antibiotics}
- A23B 4/24 . . . Inorganic compounds
- A23B 4/26 . Apparatus for preserving using liquids; {Methods therefor}
- A23B 4/28 . . by injection of liquids
- A23B 4/285 . . . {with inorganic salts}
- A23B 4/30 . . by spraying of liquids
- A23B 4/305 . . . {with inorganic salts}
- A23B 4/32 . Apparatus for preserving using solids
- A23B 4/325 . . {with inorganic salts}
- A23B 5/00** **Preservation of eggs or egg products** (preserving dough or bakery products [A21D](#))
- A23B 5/005 . Preserving by heating
- A23B 5/0052 . . {in the shell}
- A23B 5/0055 . . {without the shell}
- A23B 5/0057 . . . {with packages}
- A23B 5/01 . . by irradiation or electric treatment

- A23B 5/015 . Preserving by irradiation or electric treatment without heating effect
- A23B 5/02 . Drying; Subsequent reconstitution
- A23B 5/022 .. {Drying with use of gas or vacuum}
- A23B 5/025 .. {Drying} with addition of chemicals ([A23B 5/03](#), [A23B 5/035](#) take precedence)
- A23B 5/0255 ... {Drying with use of liquids, e.g. by extraction}
- A23B 5/03 .. Freeze-drying, {i.e. cryodesiccation, lyophilisation; Apparatus therefor}
- A23B 5/035 .. Spray-drying
- A23B 5/04 . Freezing; Subsequent thawing; Cooling
- A23B 5/041 .. {Freezing or cooling without shell ([A23B 5/05](#) takes precedence)}
- A23B 5/043 ... {with packages}
- A23B 5/045 .. Thawing subsequent to freezing
- A23B 5/05 .. {Freezing or cooling} with addition of chemicals
- A23B 5/055 ... with direct contact between the food and the chemical, e.g. liquid nitrogen, at cryogenic temperature
- A23B 5/06 . Coating eggs with a protective layer; Compositions or apparatus therefor
- A23B 5/065 .. {Apparatus for coating}
- A23B 5/08 . Preserving with chemicals
- A23B 5/10 .. in the form of gases, e.g. fumigation; Compositions or apparatus therefor
- A23B 5/12 .. in the form of liquids or solids
- A23B 5/14 ... Organic compounds; Micro-organisms; Enzymes
- A23B 5/16 Micro-organisms; Enzymes
- A23B 5/18 ... Inorganic compounds
- A23B 5/20 ... Apparatus for preserving using liquids
- A23B 5/22 ... Apparatus for preserving using solids

A23B 7/00 Preservation or chemical ripening of fruit or vegetables

- A23B 7/005 . Preserving by heating
- A23B 7/0053 .. {by direct or indirect contact with heating gases or liquids}
- A23B 7/0056 ... {with packages}
- A23B 7/01 .. by irradiation or electric treatment
- A23B 7/012 ... {with packages}
- A23B 7/015 . Preserving by irradiation or electric treatment without heating effect
- A23B 7/02 . Dehydrating; Subsequent reconstitution ([dried cooked potatoes A23L 1/216](#))
- A23B 7/0205 .. {by contact of the material with fluids, e.g. drying gas or extracting liquids}
- A23B 7/021 .. {Foam drying}
- A23B 7/0215 .. {Post-treatment of dried fruits or vegetables}
- A23B 7/022 .. with addition of chemicals {before or during drying, e.g. semi-moist

- [A23B 7/024](#) to [A23B 7/028](#) take precedence)
- [A23B 7/024](#) .. Freeze-drying, {i.e. cryodesiccation or lyophilisation}
 - [A23B 7/026](#) .. Spray-drying
 - [A23B 7/028](#) .. Thin layer-, drum- or roller-drying {or by contact with a hot surface}
 - [A23B 7/03](#) .. Drying raw potatoes

 - [A23B 7/04](#) . Freezing; Subsequent thawing; Cooling
 - [A23B 7/0408](#) .. {the material being transported through or in the apparatus with or without shaping, e.g. in the form of powder, granules or flakes ([A23B 7/05](#) takes precedence; moving on the spot only [A23B 7/0425](#))}
 - [A23B 7/0416](#) ... {with packages or with shaping in the form of blocks or portions}
 - [A23B 7/0425](#) .. {the material not being transported through or in the apparatus, with or without shaping, e.g. in the form of powder, granules or flakes ([A23B 7/05](#) takes precedence)}
 - [A23B 7/0433](#) ... {with packages or with shaping in the form of blocks or portions}
 - [A23B 7/0441](#) .. {Treatment other than blanching preparatory to freezing}
 - [A23B 7/045](#) .. Thawing subsequent to freezing
 - [A23B 7/05](#) .. with addition of chemicals {or treatment with chemicals other than cryogenics, before or during cooling, e.g. in the form of an ice coating or frozen block}
 - [A23B 7/055](#) ... with direct contact between the food and the chemical, e.g. liquid nitrogen, at cryogenic temperature

 - [A23B 7/06](#) . Blanching (machines therefor [A23N 12/00](#))

 - [A23B 7/08](#) . Preserving with sugars (marmalade, jam, fruit jellies [A23L 1/06](#))
 - [A23B 7/085](#) .. {in a solution of sugar}

 - [A23B 7/10](#) . Preserving with acids; Acid fermentation
 - [A23B 7/105](#) .. {Leaf vegetables, e.g. sauerkraut}
 - [A23B 7/12](#) .. Apparatus for compressing sauerkraut

 - [A23B 7/14](#) . Preserving or ripening with chemicals not covered by groups [A23B 7/08](#) or [A23B 7/10](#)
 - [A23B 7/144](#) .. in the form of gases, e.g. fumigation; Compositions or apparatus therefor {(cooling without control of atmosphere composition [A23B 7/04](#))}
 - [A23B 7/148](#) ... in a controlled atmosphere, e.g. partial vacuum, comprising only CO₂, N₂, O₂ or H₂O
 - [A23B 7/152](#) ... in a controlled atmosphere comprising other gases in addition to CO₂, N₂, O₂ or H₂O; {Elimination of such other gases}
 - [A23B 7/153](#) .. in the form of liquids or solids
 - [A23B 7/154](#) ... Organic compounds; Micro-organisms; Enzymes (acid fermentation [A23B 7/10](#))
 - [A23B 7/155](#) Micro-organisms; Enzymes; {Antibiotics}
 - [A23B 7/157](#) ... Inorganic compounds
 - [A23B 7/158](#) ... Apparatus for preserving using liquids
 - [A23B 7/159](#) ... Apparatus for preserving using solids

 - [A23B 7/16](#) . Coating with a protective layer; Compositions or apparatus therefor ([A23B 7/08](#) takes precedence)

A23B 9/00**Preservation of edible seeds, e.g. cereals**

- A23B 9/005 . {Processes or apparatus using pressure variation or mechanical force, e.g. shock, acceleration, shear stress, contortion}
- A23B 9/02 . Preserving by heating
- A23B 9/025 .. {with use of gases}
- A23B 9/04 .. by irradiation or electric treatment
- A23B 9/06 . Preserving by irradiation or electric treatment without heating effect
- A23B 9/08 . Drying; Subsequent reconstitution
- A23B 9/10 . Freezing; Subsequent thawing; Cooling
- A23B 9/12 .. Thawing subsequent to freezing
- A23B 9/14 . Coating with a protective layer; Compositions or apparatus therefor
- A23B 9/16 . Preserving with chemicals
- A23B 9/18 .. in the form of gases, e.g. fumigation; Compositions or apparatus therefor
- A23B 9/20 ... in a controlled atmosphere, e.g. partial vacuum, comprising only CO₂, N₂, O₂ or H₂O
- A23B 9/22 ... in a controlled atmosphere comprising other gases in addition to CO₂, N₂, O₂ or H₂O
- A23B 9/24 .. in the form of liquids or solids
- A23B 9/26 ... Organic compounds; Micro-organisms; Enzymes
- A23B 9/28 Micro-organisms; Enzymes; {Antibiotics}
- A23B 9/30 ... Inorganic compounds
- A23B 9/32 ... Apparatus for preserving using liquids
- A23B 9/34 ... Apparatus for preserving using solids