

# CPC COOPERATIVE PATENT CLASSIFICATION

## A HUMAN NECESSITIES

### AGRICULTURE

#### A01 AGRICULTURE; FORESTRY; ANIMAL HUSBANDRY; HUNTING; TRAPPING; FISHING

#### A01C PLANTING; SOWING; FERTILISING (combined with general working of soil [A01B 49/04](#); parts, details or accessories of agricultural machines or implements, in general [A01B 51/00](#) - [A01B 75/00](#); {apparatus for spreading sand or salt [E01C](#); sowing and fertilising with aircraft [B64D 1/16](#) - [B64D 1/20](#)})

##### WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

<b>1/00</b>	<b>Apparatus, or methods of use thereof, for testing or treating seed, roots, or the like, prior to sowing or planting (chemicals therefor <a href="#">A01N 25/00</a> - <a href="#">A01N 65/00</a> {irradiation in general <a href="#">B01J 19/08</a>})</b>	<b>3/066</b>	<b>. . {Spreading by using worm or screw conveyors}</b>
		<b>3/08</b>	<b>. . for manure already laying on the soil</b>
<b>1/005</b>	<b>. {Potato seed cutters}</b>	<b>5/00</b>	<b>Making or covering furrows or holes for sowing, planting or manuring</b>
<b>1/02</b>	<b>. Germinating apparatus; Determining germination capacity of seeds or the like (germinating in preparation of malt <a href="#">C12C 1/027</a>)</b>	<b>5/02</b>	<b>. Hand tools for making holes for sowing, planting or manuring (transplanting devices for trees <a href="#">A01G 23/02</a>)</b>
<b>1/025</b>	<b>. . {Testing seeds for determining their viability or germination capacity}</b>	<b>5/04</b>	<b>. Machines for making or covering holes for sowing or planting</b>
<b>1/04</b>	<b>. Arranging seeds on carriers, e.g. on tapes, on cords {Carrier compositions}</b>	<b>5/045</b>	<b>. . {with piercing buckets (devices for laying-out or removing protective coverings for plants <a href="#">A01G 13/02</a>})}</b>
<b>1/042</b>	<b>. . {Tapes, bands or cords}</b>	<b>5/06</b>	<b>. Machines for making or covering drills or furrows for sowing or planting ({seeders depositing seeds in rows <a href="#">A01C 7/08</a>}; ploughs for making ridges <a href="#">A01B 13/02</a>; {lifting devices for agricultural machines <a href="#">A01B 63/00</a>})</b>
<b>1/044</b>	<b>. . {Sheets, multiple sheets or mats}</b>	<b>5/062</b>	<b>. . {Devices for making drills or furrows}</b>
<b>1/046</b>	<b>. . {Carrier compositions}</b>	<b>5/064</b>	<b>. . . {with rotating tools}</b>
<b>2001/048</b>	<b>. . {Machines}</b>	<b>5/066</b>	<b>. . {Devices for covering drills or furrows}</b>
<b>1/06</b>	<b>. Coating or dressing seed {(encapsulated embryos or artificial seeds <a href="#">A01H 4/006</a>; seed coating compositions <a href="#">C09D</a>})</b>	<b>5/068</b>	<b>. . . {Furrow packing devices, e.g. press wheels}</b>
<b>1/08</b>	<b>. Immunising seed</b>	<b>5/08</b>	<b>. Machines for both manuring and sowing or both manuring and planting</b>
<b>3/00</b>	<b>Treating manure; Manuring ({ploughs with additional arrangements for putting manure under the soil <a href="#">A01B 17/002</a>}; dung forks <a href="#">A01D 9/00</a> ; treating of waste water, sewage or sludge <a href="#">C02F</a>} organic fertilisers from waste or refuse <a href="#">C05F</a>)</b>	<b>7/00</b>	<b>Sowing ({with centrifugal wheels <a href="#">A01C 17/00</a>} arrangements for driving working parts <a href="#">A01C 19/00</a>)</b>
<b>3/02</b>	<b>. Storage places for manure, e.g. cisterns for liquid manure; Installations for fermenting manure (sewerage structures <a href="#">E03F 5/00</a>; silos, bunkers <a href="#">E04H 7/22</a>)</b>	<b>7/002</b>	<b>. {Dibble seeders}</b>
<b>3/021</b>	<b>. . {for composted manure}</b>	<b>7/004</b>	<b>. {using liquid seeding techniques}</b>
<b>3/023</b>	<b>. . {Digesters}</b>	<b>7/006</b>	<b>. {Minimum till seeding}</b>
<b>3/025</b>	<b>. . {with heat recuperation means}</b>	<b>7/008</b>	<b>. {Sod or grassland seeding (<a href="#">A01C 7/08</a> takes precedence)}</b>
<b>3/026</b>	<b>. . {with mixing or agitating devices}</b>	<b>7/02</b>	<b>. Hand sowing implements {(fertiliser distributors for hand use <a href="#">A01C 15/02</a>; tools for cultivation <a href="#">A01G 20/30</a>, <a href="#">A01G 20/40</a>})}</b>
<b>3/028</b>	<b>. . {Covers, roofs or other structures for covering manure storage places (production of methane or biogas <a href="#">C02F 11/04</a>; coverings for swimming or splash baths or pools <a href="#">E04H 4/10</a>})}</b>	<b>7/04</b>	<b>. Single-grain seeders with or without suction devices {(regulation <a href="#">A01C 7/10</a>; for quantities of seed <a href="#">A01C 7/18</a>})}</b>
<b>3/04</b>	<b>. Manure loaders (loaders in general <a href="#">B65G</a>)</b>	<b>7/042</b>	<b>. . {using pneumatic means}</b>
<b>3/06</b>	<b>. Manure distributors, e.g. dung distributors</b>	<b>7/044</b>	<b>. . . {Pneumatic seed wheels}</b>
<b>3/063</b>	<b>. . {Side-spreaders}</b>	<b>7/046</b>	<b>. . . . {with perforated seeding discs}</b>
		<b>7/048</b>	<b>. . {Seed tape planters}</b>

- 7/06 . Seeders combined with fertilising apparatus ([conducting and depositing seed A01C 7/20](#); apparatus for two kinds of fertiliser [A01C 15/00](#)); combinations with soil working tools [A01B 49/04](#))
- 7/08 . Broadcast seeders; Seeders depositing seeds in rows ({[machines for making furrows A01C 5/06](#); combination of seed machines with other soil-working tools [A01B 49/06](#); foldable apparatus [A01B 73/00](#)})
- 7/081 . . {Seeders depositing seeds in rows using pneumatic means}
- 7/082 . . . {Ducts, distribution pipes or details thereof for pneumatic seeders ([non-pneumatic seed pipes A01C 7/206](#))}
- 7/084 . . . {Pneumatic distribution heads for seeders}
- 7/085 . . {Broadcast seeders}
- 7/087 . . {Tramlining}
- 7/088 . . {Sectional seeding}
- 7/10 . . Devices for adjusting the seed-box {[Regulation of machines for depositing quantities at intervals](#)}
- 7/102 . . . {Regulating or controlling the seed rate}
- 7/105 . . . . {Seed sensors}
- 7/107 . . . {Calibration of the seed rate}
- 7/12 . . Seeders with feeding wheels
- 7/121 . . . {for sowing seeds of different sizes}
- 7/122 . . . . {using more than one feeding wheel; using double-run feeding wheels}
- 7/123 . . . {Housings for feed rollers or wheels}
- 7/124 . . . . {with top delivery of the seeds}
- 7/125 . . . . {with bottom delivery of the seeds}
- 7/126 . . . {Stubbed rollers or wheels}
- 7/127 . . . {Cell rollers, wheels, discs or belts}
- 7/128 . . . . {Cell discs}
- 7/14 . . . Seeders with spoon or bucket wheels
- 7/16 . . Seeders with other distributing devices, e.g. brushes, discs, screws, slides ({[with distributing slots A01C 15/06](#); with slides [A01C 15/124](#)}; with chains [A01C 15/18](#))
- 7/163 . . . {Gravity distributors}
- 7/166 . . . {Centrifugal distributors ([pneumatic distributors A01C 15/04](#))}
- 7/18 . Machines for depositing quantities of seed at intervals ({[dibble seeders A01C 7/002](#); [single-grain seeders A01C 7/04](#); [regulation A01C 7/102](#); [ridge marking A01B 69/02](#)})
- 7/185 . . {Foot valves}
- 7/20 . Parts of seeders for conducting and depositing seed ({[combined with fertilising apparatus A01C 7/06](#)})
- 7/201 . . {Mounting of the seeding tools}
- 7/203 . . . {comprising depth regulation means}
- 7/205 . . . {comprising pressure regulation means}
- 7/206 . . {Seed pipes}
- 7/208 . . {Chassis; Coupling means to a tractor or the like; Lifting means; Side markers ([hoppers for seeders or spreaders A01C 15/006](#))}
- 9/00** **Potato planters** ({[planting by hand A01C 7/02](#)}; combinations with soil working tools [A01B 49/04](#))
- 9/02 . with conveyor belts
- 9/04 . with bucket wheels ({[with other distributing devices A01C 9/08](#)})
- 9/06 . with piercing or grasping devices
- 9/08 . with other distributing devices, e.g. flaps, screws, horizontal turning plates ({[with bucket wheels A01C 9/04](#)})
- 11/00** **Transplanting machines** ({[hand sowing A01C 7/02](#)}; carriers for supporting persons [A01B 75/00](#); transplanting devices for trees [A01G 23/02](#))
- 11/003 . {for aquatic plants; for planting underwater, e.g. rice}
- 11/006 . {Other parts or details or planting machines}
- 11/02 . for seedlings
- 11/025 . . {Transplanting machines using seedling trays; Devices for removing the seedlings from the trays}
- 11/04 . for deeper setting or shifting of plants
- 13/00** **Machines or apparatus for consolidating soil around plants**
- 14/00** **Methods or apparatus for planting not provided for in other groups of this subclass**
- 15/00** **Fertiliser distributors** ([A01C 7/06](#) takes precedence; {combined with seeders [A01C 7/06](#)}; arrangements for driving working parts [A01C 19/00](#); {harrows with special additional arrangements [A01B 19/00](#)}; sand, gravel or salt spreaders for roads [E01C 19/20](#))
- 15/001 . {with slowly turning wheels}
- 15/002 . {with oscillating distributing spouts}
- 15/003 . {Bulk fertiliser or grain handling in the field or on the farm}
- 15/005 . {Undercarriages, tanks, hoppers, stirrers specially adapted for seeders or fertiliser distributors}
- 15/006 . . {Hoppers}
- 15/007 . . . {with agitators in the hopper}
- 15/008 . . {Aprons; Deflecting plates; Band-spreading attachments}
- 15/02 . for hand use ({[hand sowing A01C 7/02](#)})
- 15/04 . using blowers
- 15/06 . with distributing slots {, i.e. for dosing, e.g. adjustable openings}
- 15/08 . . with pushers or stirrers in the slots
- 15/10 . . . with reciprocating pushers {or stirrers in front of the slots ([with endless chains A01C 15/18](#))}
- 15/12 . with movable parts of the receptacle
- 15/122 . . {with moving floor parts ([with endless chains A01C 15/18](#))}
- 15/124 . . {with adjustable shutters or slits}
- 15/126 . . . {with pushers or stirrers in the slits}
- 15/128 . . . {with pushers or stirrers in front of the slits ([with endless chains A01C 15/18](#))}
- 15/14 . with means for lifting out the fertiliser ({[feeding wheels, cell wheels, discs A01C 7/12](#), [bucket wheels A01C 7/14](#)})
- 15/16 . with means for pushing out the fertiliser, e.g. by a roller
- 15/18 . with endless chains {, i.e. side transporting elements, e.g. auger or screw conveyors, swash plates}

- 17/00 Fertilisers or seeders with centrifugal wheels**  
([hand-used implements A01C 7/02](#), [A01C 15/02](#); [fertiliser distributors A01C 15/00](#)); [mechanical throwing machines for articles or solid bulk materials, in general B65G 31/00](#); [sand, gravel or salt spreaders E01C 19/20](#))
- 17/001 . {Centrifugal throwing devices with a vertical axis}
  - 17/003 . {Centrifugal throwing devices with a horizontal axis}
  - 17/005 . {Driving mechanisms for the throwing devices}
  - 17/006 . {Regulating or dosing devices}
  - 17/008 . . {Devices controlling the quantity or the distribution pattern}
- 19/00 Arrangements for driving working parts of fertilisers or seeders** ([A01C 17/005](#) takes precedence)
- 19/02 . by a motor
  - 19/04 . by a ground-engaging wheel
  - 19/045 . . {the drive coupling being controlled by lifting or lowering of the seeding tools}
- 21/00 Methods of fertilizing, {sowing or planting}**  
([fertilisers C05](#); [soil-conditioning or soil-stabilising materials C09K 17/00](#))
- 21/002 . {Apparatus for sowing fertiliser; Fertiliser drill}
  - 21/005 . {Following a specific plan, e.g. pattern ([precision agriculture in general A01B 79/005](#); [steering or guiding agricultural machines or implements A01B 69/00](#))}
  - 21/007 . {Determining fertilization requirements}
- 23/00 Distributing devices specially adapted for liquid manure or other fertilising liquid, including ammonia, e.g. transport tanks, sprinkling wagons**  
([watering fields in general A01G 25/00](#); [spraying or applying liquids or other fluent materials in general B05](#))
- 23/001 . {Sludge spreaders, e.g. liquid manure spreaders}
  - 23/002 . . {provided with auxiliary arrangements, e.g. pumps, agitators, cutters}
  - 23/003 . . {Distributing devices, e.g. for rotating, throwing}
  - 23/005 . . . {Nozzles, valves, splash plates}
  - 23/006 . {Distribution of liquid fertilisers by gravity flow ([distribution of liquid ammonia in or on the soil A01C 23/024](#); [under pressure A01C 23/04](#))}
  - 23/007 . {Metering or regulating systems}
  - 23/008 . {Tanks, chassis or related parts}
  - 23/02 . Special arrangements for delivering the liquid directly into the soil
  - 23/021 . . {Sludge injectors, i.e. liquid manure injectors}
  - 23/022 . . . {Continuous injection tools ([devices for making drill or furrows A01C 5/066](#))}
  - 23/023 . . {for liquid or gas fertilisers}
  - 23/024 . . . {for ammonia}
  - 23/025 . . . {Continuous injection tools}
  - 23/026 . . . {Localised non-continuous injection tools, e.g. pal injectors, spike wheels}
  - 23/027 . . {Other methods for delivering fertiliser into the soil ([sowing granular fertiliser A01C 21/002](#); [subirrigation A01G 25/06](#))}
  - 23/028 . . . {Contactless injection into the soil}
  - 23/04 . Distributing under pressure; Distributing mud; Adaptation of watering systems for fertilising-liquids
- 23/042 . . {Adding fertiliser to watering systems ([adding insecticides or herbicides A01M 7/00](#))}
  - 23/045 . . {Filling devices for liquid manure or slurry tanks ([arrangements for connecting hoses of the quick-acting type F16L 37/00](#))}
  - 23/047 . . {Spraying of liquid fertilisers ([gravity flow A01C 23/006](#); [watering gardens, fields, sports grounds or the like A01G 25/00](#))}