

CPC COOPERATIVE PATENT CLASSIFICATION

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](#)})

1/00	Apparatus, or methods of use thereof, for testing or treating seed, roots, or the like, prior to sowing or planting (chemicals therefor A01N 25/00 - A01N 65/00 {irradiation in general B01J 19/08 })	5/06	. Machines for making or covering drills or furrows for sowing or planting ({seeders depositing seeds in rows A01C 7/08 }; ploughs for making ridges A01B 13/02 ; {lifting devices for agricultural machines A01B 63/00 })
1/005	. {Potato seed cutters}	5/062	. . {Devices for making drills or furrows}
1/02	. Germinating apparatus; Determining germination capacity of seeds or the like (germinating in preparation of malt C12C 1/027)	5/064	. . . {with rotating tools}
1/025	. . {Testing seeds for determining their viability or germination capacity}	5/066	. . {Devices for covering drills or furrows}
1/04	. Arranging seeds on carriers, e.g. on tapes, on cords {Carrier compositions}	5/068	. . . {Furrow packing devices, e.g. press wheels}
1/042	. . {Tapes, bands or cords}	5/08	. Machines for both manuring and sowing or both manuring and planting
1/044	. . {Sheets, multiple sheets or mats}	7/00	Sowing ({with centrifugal wheels A01C 17/00 arrangements for driving working parts A01C 19/00)
1/046	. . {Carrier compositions}	7/002	. {Dibble seeders}
2001/048	. . {Machines}	7/004	. {using liquid seeding techniques}
1/06	. Coating or dressing seed {(encapsulated embryos or artificial seeds A01H 4/006 ; Seed coating compositions C09D)}	7/006	. {Minimum till seeding}
1/08	. Immunising seed	7/008	. {Sod or grassland seeding (A01C 7/08 takes precedence)}
3/00	Treating manure; Manuring ({ploughs with additional arrangements for putting manure under the soil A01B 17/002 }; dung forks A01D 9/00 ; {treating of waste water, sewage or sludge C02F } organic fertilisers from waste or refuse C05F)	7/02	. Hand sowing implements {(fertiliser distributors for hand use A01C 15/02 ; tools for cultivation A01G 1/12)}
3/02	. Storage places for manure, e.g. cisterns for liquid manure; Installations for fermenting manure (sewerage structures E03F 5/00 ; silos, bunkers E04H 7/22)	7/04	. Single-grain seeders with or without suction devices {(regulation A01C 7/10 ; for quantities of seed A01C 7/18)}
3/021	. . {for composted manure}	7/042	. . {using pneumatic means}
3/023	. . {Digesters}	7/044	. . . {Pneumatic seed wheels}
3/025	. . {with heat recuperation means}	7/046 {with perforated seeding discs}
3/026	. . {with mixing or agitating devices}	7/048	. . {Seed tape planters}
3/028	. . {Covers, roofs or other structures for covering manure storage places (production of methane or biogas C02F 11/04 ; coverings for swimming or splash baths or pools E04H 4/10)}	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)
3/04	. Manure loaders (loaders in general B65G)	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)}
3/06	. Manure distributors, e.g. dung distributors	7/081	. . {Seeders depositing seeds in rows using pneumatic means}
3/063	. . {Side-spreaders}	7/082	. . . {Ducts, distribution pipes or details thereof for pneumatic seeders (non-pneumatic seed pipes A01C 7/206)}
3/066	. . {Spreading by using worm or screw conveyors}	7/084 {Pneumatic distribution heads for seeders}
3/08	. . for manure already laying on the soil	7/085	. . {Broadcast seeders}
5/00	Making or covering furrows or holes for sowing, planting or manuring	7/087	. . {Tramlining}
5/02	. Hand tools for making holes for sowing, planting or manuring (transplanting devices for trees A01G 23/02)	7/088	. . {Sectional seeding}
5/04	. Machines for making or covering holes for sowing or planting	7/10	. . Devices for adjusting the seed-box {Regulation of machines for depositing quantities at intervals}
5/045	. . {with piercing buckets (devices for laying-out or removing protective coverings for plants A01G 13/02)}	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](#))}