

# 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](#)})

<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</b> (chemicals therefor <a href="#">A01N 25/00</a> - <a href="#">A01N 65/00</a> {irradiation in general <a href="#">B01J 19/08</a> })	<b>5/06</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> })
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 <a href="#">C12C 1/027</a> )	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}	<b>7/00</b>	<b>Sowing</b> ({with centrifugal wheels <a href="#">A01C 17/00</a> arrangements for driving working parts <a href="#">A01C 19/00</a> )
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 <a href="#">A01H 4/006</a> ; Seed coating compositions <a href="#">C09D</a> })	7/006	. {Minimum till seeding}
1/08	. Immunising seed	7/008	. {Sod or grassland seeding ( <a href="#">A01C 7/08</a> takes precedence)}
<b>3/00</b>	<b>Treating manure; Manuring</b> ({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> )	7/02	. Hand sowing implements {(fertiliser distributors for hand use <a href="#">A01C 15/02</a> ; tools for cultivation <a href="#">A01G 1/12</a> })
3/02	. 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> )	7/04	. 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> })
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 <a href="#">C02F 11/04</a> ; coverings for swimming or splash baths or pools <a href="#">E04H 4/10</a> })	7/06	. Seeders combined with fertilising apparatus ({conducting and depositing seed <a href="#">A01C 7/20</a> ; apparatus for two kinds of fertiliser <a href="#">A01C 15/00</a> }; combinations with soil working tools <a href="#">A01B 49/04</a> )
3/04	. Manure loaders (loaders in general <a href="#">B65G</a> )	7/08	. Broadcast seeders; Seeders depositing seeds in rows {(machines for making furrows <a href="#">A01C 5/06</a> ; combination of seed machines with other soil-working tools <a href="#">A01B 49/06</a> ; foldable apparatus <a href="#">A01B 73/00</a> })
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 <a href="#">A01C 7/206</a> })
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}
<b>5/00</b>	<b>Making or covering furrows or holes for sowing, planting or manuring</b>	7/087	. . {Tramlining}
5/02	. Hand tools for making holes for sowing, planting or manuring (transplanting devices for trees <a href="#">A01G 23/02</a> )	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 <a href="#">A01G 13/02</a> })	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}	15/002	. {with oscillating distributing spouts}
7/123	. . . {Housings for feed rollers or wheels}	15/003	. {Bulk fertiliser or grain handling in the field or on the farm}
7/124	. . . . {with top delivery of the seeds}	15/005	. {Undercarriages, tanks, hoppers, stirrers specially adapted for seeders or fertiliser distributors}
7/125	. . . . {with bottom delivery of the seeds}	15/006	. . {Hoppers}
7/126	. . . {Stubbed rollers or wheels}	15/007	. . . {with agitators in the hopper}
7/127	. . . {Cell rollers, wheels, discs or belts}	15/008	. . {Aprons; Deflecting plates; Band-spreading attachments}
7/128	. . . . {Cell discs}		
7/14	. . . Seeders with spoon or bucket wheels	15/02	. for hand use ({hand sowing <a href="#">A01C 7/02</a> })
7/16	. . Seeders with other distributing devices, e.g. brushes, discs, screws, slides ({with distributing slots <a href="#">A01C 15/06</a> ; with slides <a href="#">A01C 15/124</a> }; with chains <a href="#">A01C 15/18</a> )	15/04	. using blowers
		15/06	. with distributing slots, {i.e. for dosing, e.g. adjustable openings}
7/163	. . . {Gravity distributors}	15/08	. . with pushers or stirrers in the slots
7/166	. . . {Centrifugal distributors (pneumatic distributors <a href="#">A01C 15/04</a> )}	15/10	. . . with reciprocating pushers {or stirrers in front of the slots (with endless chains <a href="#">A01C 15/18</a> )}
7/18	. Machines for depositing quantities of seed at intervals {(dibble seeders <a href="#">A01C 7/002</a> ; single-grain seeders <a href="#">A01C 7/04</a> ; regulation <a href="#">A01C 7/102</a> ; ridge marking <a href="#">A01B 69/02</a> )}	15/12	. with movable parts of the receptacle
		15/122	. . {with moving floor parts (with endless chains <a href="#">A01C 15/18</a> )}
7/185	. . {Foot valves}	15/124	. . {with adjustable shutters or slits}
7/20	. Parts of seeders for conducting and depositing seed {(combined with fertilising apparatus <a href="#">A01C 7/06</a> )}	15/126	. . . {with pushers or stirrers in the slits}
		15/128	. . . {with pushers or stirrers in front of the slits (with endless chains <a href="#">A01C 15/18</a> )}
7/201	. . {Mounting of the seeding tools}	15/14	. with means for lifting out the fertiliser ({feeding wheels, cell wheels, discs <a href="#">A01C 7/12</a> , bucket wheels <a href="#">A01C 7/14</a> )}
7/203	. . . {comprising depth regulation means}		
7/205	. . . {comprising pressure regulation means}	15/16	. with means for pushing out the fertiliser, e.g. by a roller
7/206	. . {Seed pipes}	15/18	. with endless chains, {i.e. side transporting elements, e.g. auger or screw conveyors, swash plates}
7/208	. . {Chassis; Coupling means to a tractor or the like; Lifting means; Side markers (hoppers for seeders or spreaders <a href="#">A01C 15/006</a> )}		
<b>9/00</b>	<b>Potato planters</b> ({planting by hand <a href="#">A01C 7/02</a> }; combinations with soil working tools <a href="#">A01B 49/04</a> )	<b>17/00</b>	<b>Fertilisers or seeders with centrifugal wheels</b> ({hand-used implements <a href="#">A01C 7/02</a> , <a href="#">A01C 15/02</a> ; fertiliser distributors <a href="#">A01C 15/00</a> }; mechanical throwing machines for articles or solid bulk materials, in general <a href="#">B65G 31/00</a> ; sand, gravel or salt spreaders <a href="#">E01C 19/20</a> )
9/02	. with conveyor belts	17/001	. {Centrifugal throwing devices with a vertical axis}
9/04	. with bucket wheels {(with other distributing devices <a href="#">A01C 9/08</a> )}	17/003	. {Centrifugal throwing devices with a horizontal axis}
9/06	. with piercing or grasping devices	17/005	. {Driving mechanisms for the throwing devices}
9/08	. with other distributing devices, e.g. flaps, screws, horizontal turning plates {(with bucket wheels <a href="#">A01C 9/04</a> )}	17/006	. {Regulating or dosing devices}
		17/008	. . {Devices controlling the quantity or the distribution pattern}
<b>11/00</b>	<b>Transplanting machines</b> ({hand sowing <a href="#">A01C 7/02</a> }; carriers for supporting persons <a href="#">A01B 75/00</a> ; transplanting devices for trees <a href="#">A01G 23/02</a> )	<b>19/00</b>	<b>Arrangements for driving working parts of fertilisers or seeders</b> ({ <a href="#">A01C 17/005</a> takes precedence})
11/003	. {for aquatic plants; for planting underwater, e.g. rice}	19/02	. by a motor
11/006	. {Other parts or details or planting machines}	19/04	. by a ground-engaging wheel
11/02	. for seedlings	19/045	. . {the drive coupling being controlled by lifting or lowering of the seeding tools}
11/025	. . {Transplanting machines using seedling trays; Devices for removing the seedlings from the trays}		
11/04	. for deeper setting or shifting of plants	<b>21/00</b>	<b>Methods of fertilizing, {sowing or planting}</b> (fertilisers <a href="#">C05</a> ; soil-conditioning or soil-stabilising materials <a href="#">C09K 17/00</a> )
<b>13/00</b>	<b>Machines or apparatus for consolidating soil around plants</b>	21/002	. {Apparatus for sowing fertiliser; Fertiliser drill}
<b>14/00</b>	<b>Methods or apparatus for planting not provided for in other groups of this subclass</b>	21/005	. {Following a specific plan, e.g. pattern (precision agriculture in general <a href="#">A01B 79/005</a> ; steering or guiding agricultural machines or implements <a href="#">A01B 69/00</a> )}
<b>15/00</b>	<b>Fertiliser distributors</b> ( <a href="#">A01C 7/06</a> takes precedence; {combined with seeders <a href="#">A01C 7/06</a> }; arrangements for driving working parts <a href="#">A01C 19/00</a> ; {harrows with special additional arrangements <a href="#">A01B 19/00</a> }; sand, gravel or salt spreaders for roads <a href="#">E01C 19/20</a> )	21/007	. {Determining fertilization requirements}
15/001	. {with slowly turning wheels}		

- 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](#))}