

A01H

NEW PLANTS OR {NON-TRANSGENIC} PROCESSES FOR OBTAINING THEM; PLANT REPRODUCTION BY TISSUE CULTURE TECHNIQUES

Definition statement

This place covers:

New non-transgenic plants (including multicellular algae, multicellular fungi and lichens), plant varieties, plant tissue culture and breeding methods, methods for altering phenotypes.

Relationships with other classification places

Methods for promoting plant growth with electric lighting, magnetic treatments or acoustic treatments, without the purpose of creating a new plant or plant variety, are classified in [A01G 7/04](#) – [A01G 7/045](#).

[A01H](#) does not cover undifferentiated plant cells or plant cell lines, unicellular algae, or unicellular fungi.

Plant cells, plant tissues and plant cell lines that are not being reproduced or regenerated into new plants or new plant varieties are classified in [C12N 5/04](#) or [C12N 5/14](#).

Cell culture media therefor are classified in [C12N 5/0025](#).

Apparatus and devices specifically adapted to ferment or grow plant cell or plant cell lines are classified in [C12M 1/00](#) or [C12M 3/00](#).

Measuring or testing processes involving nucleic acids are classified in [C12Q](#).

References

Limiting references

This place does not cover:

Unicellular algae	C12N 1/12
Unicellular, single celled fungi	C12N 1/14
Specific mutations prepared by genetic engineering on plant cell or plant tissues	C12N 15/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Botany, e.g. influencing non-chemically the growth of plants without producing new plants	A01G 7/00
Biocides, pest repellants or attractants or plant growth regulators, e.g. influencing chemically the growth of plants without producing new plants	A01N 25/00
Culture media for undifferentiated plant cell or plant tissue culture	C12N 5/0025
Undifferentiated plant cells or tissues, e.g. cell lines or tissues per se	C12N 5/04
Plant cells modified by introduction of foreign genetic material	C12N 5/14
Nucleic acid hybridisation assays, detecting genotypes	C12Q 1/68

Special rules of classification

[A01H](#) groups and subgroups are globally directed to tissue culture and classical breeding techniques and [C12N 15/82](#) subgroups to transgenics. However, the two are not mutually exclusive. For example, traits which have been identified and used in transgenics may warrant classification in both areas, as may regeneration methods, which are part of a transformation protocol.

Main groups [A01H 1/00](#) – [A01H 4/00](#) are used for new methods or processes that bring a technical contribution over the prior art. Methods or processes representing the state of the art are not classified. Technical contributions may or may not be claimed and should be well characterised or preferably exemplified.

Main groups [A01H 5/00](#) – [A01H 17/00](#) are only used for new, non-transgenic plants (usually varieties).

Particular plant taxons must be cross-classified in the subgroups of [A01H 5/00](#) – [A01H 5/12](#) corresponding to the plant part and cross-classified in the subgroups of [A01H 6/00](#) – [A01H 11/00](#), [A01H 17/00](#) according to plant taxons.

A01H 1/00

Processes for modifying genotypes {; Plants characterised by associated natural traits} ([A01H 4/00](#) takes precedence)

Definition statement

This place covers:

Breeding methods as further defined by the sub-groups.

Plants characterized by non-agronomic quality traits, agronomic yield or resistance aspects.

References

Limiting references

This place does not cover:

Plant reproduction by tissue culture techniques	A01H 4/00
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A01H 1/02

Methods or apparatus for hybridisation; Artificial pollination {; Fertility}

Definition statement

This place covers:

Creation of hybrids, interspecific crossing, genic (e.g. male or female [A01H 1/022](#) – [A01H 1/024](#)) and nongenetic (e.g. by using chemicals [A01H 1/026](#)) sterility systems. Apparatus for pollination in [A01H 1/027](#).

Relationships with other classification places

Methods for preparing hybrid plant cells or cell lines by protoplast fusion of two or more cells without reproducing a new plant are classified in [C12N 15/02](#).

A01H 1/04

Processes of selection {involving genotypic or phenotypic markers; Methods of using phenotypic markers for selection}

Definition statement

This place covers:

Marker-assisted breeding; specific allelic combination. Methods of using phenotypic markers for selection, where the traits are outside of the scope of the output or input traits listed in [A01H 1/10](#) – [A01H 1/129](#).

Relationships with other classification places

Marker-assisted breeding includes selecting traits based on morphological (phenotypic), biochemical, cytological or DNA/RNA (genotypic) variation. When the process of selection includes chemical analysis of the marker, testing involving biospecific ligand binding methods or the immunological testing of plant cells, then it is also classified in [G01N 33/5097](#).

A01H 1/045

{using molecular markers}

Definition statement

This place covers:

Marker-assisted breeding using molecular markers described by a specific sequence.

Relationships with other classification places

Nucleic acid primers and probes used in marker-assisted breeding processes for detection or identification of plants, fungi or algae are classified in [C12Q 1/6895](#).

Special rules of classification

Molecular breeding and marker-assisted breeding techniques for transgenic traits in plants are classified in [C12N 15/8201](#) – [C12N 15/8214](#).

A01H 1/06

Processes for producing mutations, e.g. treatment with chemicals or with radiation (specific mutations prepared by genetic engineering on plant cell or plant tissues [C12N 15/00](#) {; process for producing transgenic plants [C12N 15/82](#)})

Definition statement

This place covers:

Altering repair and recombination systems.

Relationships with other classification places

Methods for generating mutant plant cell lines without inserting foreign genetic material, e.g. by using chemical mutagens or specific culture conditions and do not result in producing new plants are classified in [C12N 15/01](#).

References

Limiting references

This place does not cover:

Specific mutations prepared by genetic engineering on plant cell or plant tissues	C12N 15/00
Process for producing transgenic plants	C12N 15/82

A01H 1/08

Methods for producing changes in chromosome number

Definition statement

This place covers:

Creation of haploids or doubled haploids.

A01H 1/09

{Apparatus for producing changes in chromosome number}

Definition statement

This place covers:

Apparatus or devices specifically adapted for producing plants with changes in chromosome number, e.g. haploids or double haploids, and methods based on the use or operation of the apparatus or its parts.

Special rules of classification

Methods that take place within an apparatus adapted for producing plants with changes in chromosome number, which are not based on the use or operation of the apparatus or its parts, are classified in [A01H 1/08](#).

A01H 1/10

{Processes for modifying non-agronomic quality output traits, e.g. for industrial processing; Value added, non-agronomic traits}

Definition statement

This place covers:

Production of plants with modified non-agronomic traits, for instance traits associated with the production of biomolecules like nicotine or caffeine, or modification of lipid or pigment metabolisms.

A01H 1/12

{Processes for modifying agronomic input traits, e.g. crop yield}

Definition statement

This place covers:

Flower development or morphology, resistance to pathogens, climate, herbicide or hormone-influenced development.

A01H 3/00

**Processes for modifying phenotypes {, e.g. symbiosis with bacteria}
([A01H 4/00](#) takes precedence)**

Definition statement

This place covers:

Methods for modifying phenotypes without modifying genotypes.

References

Limiting references

This place does not cover:

Plant reproduction by tissue culture techniques	A01H 4/00
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Informative references

Attention is drawn to the following places, which may be of interest for search:

Botany, e.g. influencing non-chemically the growth of plants without producing new plants	A01G 7/00
Biocides, pest repellants or attractants or plant growth regulators, e.g. influencing chemically the growth of plants without producing new plants	A01N 25/00

Special rules of classification

Modification of the phenotypes by controlling duration, wavelength, intensity or periodicity of illumination are classified in [A01H 3/02](#). But modification of the phenotypes by treatment with chemicals are classified in [A01H 3/04](#).

A01H 3/02

by controlling duration, wavelength, intensity, or periodicity of illumination

Relationships with other classification places

Processes of treating unicellular algae, unicellular fungi, plant cells or plant cell lines, with electrical or wave energy, magnetism or sound waves are classified in [C12N 13/00](#).

Processes of illuminating plants with electric lighting for the purpose of promoting plant growth are classified in [A01G 7/045](#).

A01H 4/00

Plant reproduction by tissue culture techniques {; Tissue culture techniques therefor}

Definition statement

This place covers:

Tissue culture techniques, apparatus, culture media for plant reproduction; methods for micropropagation; methods for regeneration to complete plants.

Relationships with other classification places

Horticultural methods for soilless cultivation of plants, e.g. hydroponics, growing plants in gravel, vermiculite, rice hulls, coconut coir or foam fibres are classified in [A01G 31/00](#).

Undifferentiated plant cells, plant cell lines or plant cell tissues, wherein no new plants are produced, are classified in [C12N 5/04](#).

A01H 4/001

{Culture apparatus for tissue culture}

Definition statement

This place covers:

Apparatus or devices specifically adapted for reproducing or regenerating whole plants by plant tissue culture and methods based on the use or operation of the apparatus or its parts.

Relationships with other classification places

Apparatus or devices specifically adapted for fermentation or growth of unicellular algae or unicellular fungi, i.e. bioreactors and fermenters, are classified in [C12M 1/00](#).

Apparatus or devices specifically adapted to culture plant cells, plant cell lines, i.e. bioreactors and fermenters, are classified in [C12M 3/00](#).

Special rules of classification

Methods that take place within an apparatus adapted for tissue culture which are not based on the use or operation of the apparatus or its parts are classified in [A01H 4/00](#) and [A01H 4/005](#) – [A01H 4/008](#).

A01H 4/002

{Culture media for tissue culture}

Definition statement

This place covers:

Tissue culture media for plant reproduction.

Relationships with other classification places

Cell culture media for cultivating or maintaining plant cells or plant cell lines without reproducing a new plant are classified in [C12N 5/0025](#).

Methods for influencing chemically the growth of plants without producing new plants are classified in [A01N 25/00](#) – [A01N 65/00](#).

A01H 4/003

{Cutting apparatus specially adapted for tissue culture}

Definition statement

This place covers:

Cutting apparatus or devices specifically adapted for plant tissue culture techniques and methods based on the use or operation of the apparatus or its parts.

Relationships with other classification places

Apparatus or devices for plant tissue disaggregation are classified in [C12M 3/08](#).

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Apparatus for enzymology or microbiology	C12M 1/00
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Special rules of classification

Methods that take place within a cutting apparatus specially adapted for tissue culture, which are not based on the use or operation of the apparatus or its parts, are classified in [A01H 4/00](#) and [A01H 4/005](#) – [A01H 4/008](#), e.g. reproducing plants by tissue culture techniques.

A01H 4/006

{Encapsulated embryos for plant reproduction, e.g. artificial seeds}

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Mechanical means or machines, e.g. nozzles used for coating seeds or mechanical aspects of the coating	A01C 1/06
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A01H 5/00

**Angiosperms, i.e. flowering plants, characterised by their plant parts;
Angiosperms characterised otherwise than by their botanic taxonomy**

Definition statement

This place covers:

New non-transgenic angiosperms further sub-divided according to their plant parts.

Special rules of classification

It is mandatory to classify an [A01H 5/00](#) symbol in addition to a symbol from [A01H 6/00](#) – [A01H 11/00](#) and [A01H 17/00](#). [A01H 5/00](#) symbols may not be assigned alone.

[A01H 5/00](#) classification symbols are not listed first when assigned to patent documents, but are listed as invention information.

Plant parts are assigned based on the part having commercial or economic value. These parts may or may not be reflected by what is exemplified or claimed. In the event that the plant has multiple parts with commercial or economic value, classification is allocated based on the plant part or product to which a technical contribution is made.

When the entire plant has commercial or economic value or makes a technical contribution, it is classified in [A01H 5/00](#).

A01H 6/00

Angiosperms, i.e. flowering plants, characterised by their botanic taxonomy

Definition statement

This place covers:

New non-transgenic angiosperms. Those non-transgenic angiosperms with a new combination of genes, those described by phenotype or a single allele.

Special rules of classification

In all cases, allocation of the relevant plant part in [A01H 5/00](#) is mandatory. [A01H 6/00](#) symbols may be listed first when assigned to patent documents.

[A01H 6/00](#) is allocated for new non-transgenic angiosperms that are not otherwise characterised by a further defined subgroup.

A01H 7/00

Gymnosperms, e.g. conifers

Definition statement

This place covers:

New non-transgenic gymnosperms, e.g. conifers.

A01H 9/00

Pteridophytes, e.g. ferns, club-mosses, horse-tails

Definition statement

This place covers:

New non-transgenic pteridophytes, e.g. ferns, club-mosses or horse-tails.

A01H 11/00

Bryophytes, e.g. mosses, liverworts

Definition statement

This place covers:

New non-transgenic bryophytes, e.g. mosses or liverworts.

A01H 13/00

Algae (unicellular algae [C12N 1/12](#))

Definition statement

This place covers:

New non-transgenic multicellular algae.

Relationships with other classification places

Horticultural methods for cultivating multicellular algae or seaweed are classified in [A01G 33/00](#).

Relationships with other classification places

New natural isolates of unicellular algae, or mutants where the mutated gene is not known, are classified in [C12N 1/125](#).

Culture media for unicellular algae, compositions comprising unicellular algae and processes of isolating, maintaining or propagating unicellular algae are classified in [C12N 1/12](#).

References

Limiting references

This place does not cover:

Unicellular algae; Culture media therefor	C12N 1/12
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Special rules of classification

Looping references between [A01H 13/00](#) and [C12N 1/12](#) have been identified.

Until this inconsistency is resolved in IPC, the current classification practice in CPC is as follows:

From the perspective of [A01H 13/00](#), the reference [C12N 1/12](#) is limiting. [C12N 1/12](#) relates to unicellular algae and culture media therefor. From the perspective of [C12N 1/12](#), the reference [A01H 13/00](#) is application oriented.

A01H 15/00

Fungi; Lichens (fungal microorganisms [C12N 1/14](#))

Definition statement

This place covers:

New non-transgenic multicellular fungi or lichens.

Relationships with other classification places

New natural isolates of unicellular fungi, or mutants where the mutated gene is not known are classified in [C12N 1/145](#).

Culture media for unicellular fungi, compositions comprising unicellular fungi, and processes of isolating, maintaining or propagating unicellular fungi are classified in [C12N 1/14](#).

References

Limiting references

This place does not cover:

Unicellular fungi, culture media for unicellular fungi, compositions comprising unicellular fungi and processes of isolating, maintaining or propagating unicellular fungi	C12N 1/14
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Special rules of classification

Looping references between [A01H 15/00](#) and [C12N 1/14](#) have been identified.

Until this inconsistency is resolved in IPC, the current classification practice in CPC is as follows:

From the perspective of [A01H 15/00](#), the reference [C12N 1/14](#) is limiting. [C12N 1/14](#) relates to unicellular fungi and culture media therefor. From the perspective of [C12N 1/14](#), the reference [A01H 15/00](#) is application oriented.

A01H 17/00

Symbiotic or parasitic combinations including one or more new plants, e.g. mycorrhiza (lichens [A01H 15/00](#))

Definition statement

This place covers:

New non-transgenic symbiotic or parasitic combinations including one or more new plants, e.g. mycorrhiza.

References

Limiting references

This place does not cover:

Lichens	A01H 15/00
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