

Universal Decimal Classification —

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UDC 58 Botany

UDC 025.45:58

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Institute of Terrestrial Ecology	
Institution of Electrical Engineers	

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Foreword

The English version of the Universal Decimal Classification (UDC) is being prepared and published as BS 1000 by the British Standards Institution (BSI) at the original joint request of the British Society for International Bibliography (BSIB) and the Association of Special Libraries and Information Bureaux (ASLIB), now amalgamated as Aslib. It has the approval of the Lake Placid Education Foundation, New York, proprietors of the Dewey Decimal Classification, from which UDC derives. The English full edition of the UDC is authorized by the International Federation for Documentation (FID), PO Box 30115, 2500 GC The Hague, Netherlands.

This section is part of the English full edition. It should be used in conjunction with the Abridged English Edition, BS 1000A, which refers to many other subjects of interest not listed in this schedule, and provides a conspectus of the whole scheme, together with an introduction to its use. For further practical information about the principles, application and utilization of the scheme, users should refer to BS 1000C.

This edition of BS 1000[57] supersedes material published as part of BS 1000: Vol. 2, Part 3:1943. It includes modifications authorized in "Extensions and Corrections to the UDC" (FID publication no. 248), up to and including Series 10, No. 1, dated June 1978. Subsequent issues of "Extensions and Corrections to the UDC" should be consulted to keep the schedule up to date. British Standards related to this part of BS 1000 are listed on the inside back cover.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 34, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Scope

Under 58 is classed information about pure botany, and a few aspects of applied botany; but the main place for useful aspects of plants and their cultivation is the divisions of 63, and plant products occur throughout UDC (see Related subjects).

For the distribution in 58 of the three main divisions of botany (general botany, plant geography and systematic botany), see the note under 58 in the schedule.

Related subjects

1 The following have a general relevance to botany; but see also list 2.

- 351.823.1 Agriculture. Produce of the soil etc. — Public administration
- 368.5 Agricultural insurance
- 378.663 Agricultural colleges, schools and teaching institutes
- 502 Nature. Nature study and conservation. Nature and wildlife protection
- 547.914 Plant juices. Balsams. Resins — Chemistry
- 547.97 Pigments — Chemistry
- 561 Systematic palaeobotany
- 573.4 Microorganisms, plants and animals as forms of life
- 576.88 Plant parasitology. Parasitic plants
- 578 Virology (including plant viruses)
- 579.64 Agricultural microbiology
- 613.26 Plant foods — Hygiene
- 614.448 Measures relating to plants — Public health
- 615.076.8 Analysis by means of plants — Pharmaceutics
- 615.322 Vegetable substances — Pharmaceutics
- 615.918 Vegetable poisons (phytotoxins) — Toxicology
- 616-002.8 Lesions due to plant parasites — Pathology
- 616-008.98 Carriers of plant parasites — Pathology
- 616.158 Plant parasites in the blood
- 616.992 Infections with plant parasites
- 620.193.8 Biological action — Protection of materials
- 620.952 Energy from plants, vegetation
- 622.852 Damage to vegetation — Mining
- 631/632 Agriculture. Soil science. Plant protection etc.
- 633/635 Individual crops. Forestry. Horticulture
- 661 Chemicals (fine, heavy etc.)

- 662.6/.9 Fuels
- 663 Beverages. Stimulants. Narcotics
- 664 Manufacture and preservation of solid foods
- 665 Oils. Fats. Waxes. Adhesives. Gums. Resins
- 667 Colour industries (dyes, inks, paints etc.)
- 674 Timber and woodworking industry
- 676 Pulp and paper industry
- 677 Textile industry
- 678.4/.5 Natural macromolecular materials
- 7.043 Plant life — Subjects for artistic representation
- 712 Planning of landscape, natural and designed. Parks. Gardens
- 727.64/.65 Botanic garden buildings. Herbariums — Architecture

2 The following numbers have detailed subdivisions that enumerate plant forms by genera and species, and in some cases are more detailed than 582:

- 633 Individual crops
- 634 Forestry. Arboriculture
- 635 Horticulture. Vegetable gardening. Ornamental gardening
- 664.5 Spices. Condiments
- 665.3 Vegetable oils, fats, waxes and phosphatides
- 665.52 Natural essential oils
- 665.93 Adhesives. Glues. Gelatin. Proteins
- 665.94 Gums. Resins. Gumresins. Oleoresins. Mucilages. Resinous plant products
- 667.211 Natural organic dyestuffs
- 674.03 Species of wood
- 676.03 Fibrous raw materials — Pulp and paper industry
- 677.1/.2 Vegetable fibres — Textile industry

Auxiliary signs and subdivisions

Full information about the common and special auxiliary signs and subdivisions (often abbreviated to “common and special auxiliaries”) will be found in BS 1000A and BS 1000C.

Colon sign of relation. For the classification of information for the public, as in abstracts and bibliographies, maximum use of colon combinations rather than of common or special auxiliaries is recommended. The use of the colon sign of relation is preferable for multiple entry systems, as it will help prevent the concealment of information. This usually results in longer notation, however, and for information for more restricted use, the application of auxiliaries, where available, may be simpler and more convenient provided that there is an adequate alphabetical subject index.

Common auxiliaries. The common auxiliaries of language = . . . , form (0 . . .), place (1/9), race and nationality (= . . .), time “. . . ”, point of view. 00 . . . , materials – 03 . . . and persons – 05 . . . are applicable throughout the UDC. However, they should be used mainly to express concepts not otherwise provided for in the schedules. Examples of colon combination and of Table I(i) “Common auxiliaries of point of view” are given under 58 in the schedule.

Alphabetic extension [Table I(h)] may be used for names of genera and species where subdivision is required in greater detail than that of the schedule, e.g.

- 582.998 Compositae
- 582.998.4 Liguliflorae. Sub-family
- 582.998.4 TARAXACUM Genus *Taraxacum*
- 582.998.4 TARAXACUM OFFICINALE Species
Taraxacum officinale, the dandelion

Special auxiliaries. The special auxiliary subdivisions 58.01/.08 are valid throughout 58, and may be detached and applied to any subdivision of that number, e.g.

- 58.084 Experiments and observations on whole living plants
- 582.28.084 Experiments and observations on whole fungi (*Eumycetes*)

The subdivisions of 58.018 and 58.08 are derived from those of 57.018 and 57.08 respectively, where fuller information may be found. The subdivisions of 582 may be converted into special auxiliaries by replacing the digits 582 with a hyphen, for use under 581.9 (see the example there).

Typographic presentation

Small type is used for cancelled numbers and text. The arrow → means either “see” or “see also” according to the context. The symbol $\cong$ “subdivide as” means that the number preceding it may be subdivided in the same way as, and with meanings analogous to the subdivisions of, the number which follows it.

Bibliographical references

58,582

ENGLER, Heinrich Gustav Adolf and DIELS, Ludwig. A. Englers Syllabus der Pflanzennamen. Eine Übersicht über das ganze Pflanzensystem. . . Elfte ergänzte Auflage, bearbeitet von Dr. Ludwig Diels. . . Berlin, 1936.

582

INSTITUT INTERNATIONAL DE BIBLIOGRAPHIE. Classification décimale universelle. . . Edition complète [2nd edition]. Brussels: I.I.B., 1927-33.4 vol. [Section 58 is in Vol. I, dated 1927-29.]

Schedule

58 Botany

There are 3 main divisions of botany:

1 General botany: physiology, morphology, development, pathology — UDC 581/581.8

2 Plant geography: floras, distribution, indigenusness — UDC 581.9

3 Systematic botany: groups, subgroups, classes, subclasses, orders, sub-orders, families, subfamilies — UDC 582

The classification of systematic botany follows that of Engler-Diels (1936) (see bibliographical references, page 3)

Further particulars may be denoted by colon combination, e.g.

58:001.8 Scientific method in botany

:22 Biblical botany. Plants of the bible

58:291.13 Plants in mythology

:7.043 Botany in the arts

:82 Botany in literature generally

:871 Botany in Latin literature

and the common auxiliaries, e.g. Table I(i) Common auxiliaries of point of view:

58.001.11 Concept and definition of botany

.006 Botanic gardens and reserves

.009 Role of plants in life and in nature

Here is classed only information which cannot be classed under 581.6 or 63

and Table I(k) Materials and persons:

58-051 Botanists

Special auxiliary subdivisions

58.01/.07 EFFECT OF VARIOUS FACTORS

Protection from effects may be denoted by colon combination with 502.757, e.g.

58.056:502.757 Protection of plants from effect of climatic factors

58.073:502.757 Protection of plants from effects of animals

58.01 **Effect of internal factors. Developmental factors**

.018 External characteristics and traits
58.018 $\cong$ 57.018

.02 **Effect of external factors. Collective effect of several factors**

.03 **Physical and mechanical effects. General energetics**

.031 Weight. Gravity. Parallel forces

.032 Water. Humidity, aridity

.1 Humidity

.3 Aridity

.033 Altitude. Atmospheric pressure

.035 Emitted and absorbed light. Luminescence

.1 Absorbed light in general

.2 Duration of illumination. Photoperiodicity

.3 Intensity of absorbed light

.4 Wavelength

.5 Darkness

.7 Emitted light. Luminescence, phosphorescence

.036 Heat. Temperature. Energetics in the strict sense

.1 Heat

.2 Cardinal points. Thermal effect

.3 Harmonic optimum

.5 Cold. Frost. Hibernation withering

.6 Absorbed and emitted heat

.037 Electricity. Magnetism

.039 Pressure. Other mechanical effects

.04 **Chemical effects. Effect of anaesthetics, of poisons**

.05 **Effect of geological and meteorological factors**

.051 Soil

.055 Particular meteorological effects. Wind etc.

.056 Climatic effects

.057 Cosmic effects

.8 Influence of the moon on the growth of plants

58.07 **Biological effects. Effects of plants and animals**

.071 Effects of lower organisms

.072 Effects of plants

.073 Effects of animals

.08 **Technique, experimental methods and equipment in botany**

58.08 $\cong$ 57.08, e.g.

58.081 General organization of botanic laboratories

.082 Laboratory and museum techniques for plant specimens and collections

.115 Techniques and equipment for plant collecting

.083 Microbiological, virological and immunological methods and techniques applied to plants

.084 Experiments and observations on whole living plants (under artificially controlled and natural conditions)

.085 Experiments and observations on parts of plants, e.g. tissues and cells (in vivo and in vitro)

.086 Cytological and histological techniques applied to plants

.087 Methods and techniques for parameter estimation and recording of botanic data. Biometry of plants

.088 Methods and techniques for studying molecules

.089 Biomedical methods applied to plants. Physiological, surgical, histopathological and related techniques applied to plants

.081 Determination [cancelled] $\rightarrow$ 58.08, 58.087

.083 Experiments and observations in vitro [cancelled] use 58.085.2

.5 Comparison of conditions in vitro and in the living plant [cancelled] use 58.084:58.085, cf 58.084.5 (from 57.084.5)

.084/.084.5 Unchanged but no longer listed primarily here. $\rightarrow$ 57.084 and instruction under 58.08

.09 Methods of culture [cancelled] $\rightarrow$ 58.083, cf 58.082.2 (from 57.082.2), 58.086.83 (from 57.086.83). For sterilization, use colon combination with 614.48, cf 58.082.25 (from 57.082.25)

Principal divisions

581 General botany

- 581.1 PLANT PHYSIOLOGY
- 581.11 CIRCULATION. ABSORPTION AND EMISSION OF FLUIDS
Only the mechanism of circulation is classed here
- .111 **Absorption of liquids**
.2 By subterranean organs
.3 By aerial organs
- .112 **Circulation of liquids. Rising of sap**
→581.116 Transpiration and emission of gases in general
.2 Organs of circulation
.4 Suction by the leaves. Negative tension
.5 Suction by the stems
.6 Suction by the roots. Root pressure
.7 Suction exerted from cell to cell
- .113 **Exudation of water**
→581.135 Secretion. Excretion
- .114 **Absorption of gases in general**
Only the mechanism of gas absorption in general is classed here.
For oxygen absorption → 581.12
For carbon dioxide absorption → 581.13
- .115 **Circulation of gases**
- .116 **Transpiration and emission of gases in general**
→581.112 Circulation of liquids. Rising of sap
.1 Mechanism and quantity of water-vapour emission
- 581.12 KATABOLISM (CATABOLISM) IN GENERAL. RESPIRATION
.121 Respiration with absorption of oxygen and production of carbon dioxide
.128 Respiration with absorption of oxygen and incomplete oxidation
.129 Anaerobic respiration. So-called intramolecular respiration
- 581.13 ASSIMILATION IN GENERAL. NUTRITION. RESERVES. SECRETIONS. METABOLISM
- .131 **Assimilation, energy conversion. Absorption of food constituents and their conversion (in autotrophic plants)**
→581.137 Assimilation in heterotrophic plants
- .132 **Carbon assimilation and resulting products. Photosynthesis, chemosynthesis etc.**
→541.144 Specifically photochemical irreversible actions — Chemistry
581.134 Reserve substances, their formation and distribution in the plant
.1 Role of chlorophyll. Photolysis, decomposition of water
.2 Assimilation by means of other photocatalysts
.6 Non-photochemical assimilation of carbon
.8 Products of carbon assimilation.
- .133 **Assimilation of other substances by autotrophic plants**
.1 Assimilation of nitrogen
.11 Assimilation of free nitrogen
.12 Assimilation of nitrogen compounds
.4 Assimilation of sulphur
.5 Assimilation of phosphorus
.8 Artificial nutrition. Nutrient salt solutions
.9 Assimilation of other elements
- .134 **Reserve substances, their formation and distribution in the plant**
→581.174 Plastids (organelles, protoplasmic cell inclusions)
581.176.4 Reserve cell tissue, including aleurone layer
.1 Starch reserves
.2 Cellulose reserves
.3 Oil and fat reserves
.4 Protein reserves (granules etc.), e.g. aleurone
For aleurone layer → 581.176.4
- 581.134.5 Other reserves
.6 Generalities about reserve formation
.7 Generalities about reserve dissolution
.8 Generalities about distribution and circulation of dissolved reserve products
.9 Generalities about digestion
→581.12 Katabolism (catabolism) in general.
Respiration
- .135 **Secretion. Excretion**
.1 Laticiferous vessels
.2 Other secretory canals
.3 Secretory glands and cells
.4 Nectaries
.5 Secretions
.51 Essential oils and perfumes
.52 Resins
.53 Gums
.54 Nectar (sugary secretions)
.55 Crystals
.56 Amorphous inorganic products
- .136 **Partial resorption of degenerated parts**
→581.148 Degeneration. Loss of certain parts.
Cicatrization. Withering
- .137 **Assimilation in heterotrophic plants**
.1 Saprophytes
.2 Insectivorous (carnivorous) plants
.3 Parasites
.4 Hemiparasites
.7 Generalities about the metabolism of heterotrophic plants
.138 Symbiosis. Metabiosis [*cancelled*] → 581.557
.138.1 **Formation of nodules, e.g. in Leguminosae**
- 581.14 DEVELOPMENT
→581.3 Embryology of plants
- .141 **Seed formation**
- .142 **Germination**
- .143 **Growth**
.2 Primary growth
.21 Vegetative points
.22 Growth by enlargement, by cell elongation
.221 Growth of the protoplasm
.222 Growth of cell membrane, of cell wall
.23 Growth by cell division
.24 Differentiation
.25 Effect of tissue tension on growth
.26 Rate of growth. Periodicity. Rest period.
Hibernation [*cancelled*] → 581.143.28
.27 Correlations. Internal factors. Polarity
.28 Rate of growth. Periodicity. Rest periods.
Hibernation
.3 Secondary growth
.31 Normal growth, with production of a single annual growth ring
.311 Growth of the central cylinder
.312 Growth of the bark
.32 Abnormal growth
.4 Transplants
.5 Re-formation, regeneration
.6 Experiments with isolation of certain parts
- .144 **Physiology of the development of the vegetative organs**
.1 Thallus
.2 Roots. Subterranean nutrition organs
.3 Stems
.4 Leaves
.9 Other vegetative organs
- .145 **Physiology of the development of the reproductive organs**
.1 Flowers
.2 Fruit
For embryology → 581.3
For seed formation → 581.141
For germination → 581.142
.21 Seed-bearing fruit
.22 Seedless fruit
→631.547.52 Parthenocarpic fruits — Agriculture

- 581.148 **Degeneration. Loss of certain parts. Cicatrisation. Withering**
→581.136 Partial resorption of degenerated parts
- .1 Desquamation
 - .2 Defoliation (leaf loss)
 - .3 Deramification (branch loss)
 - .4 Cicatrisation
→581.143.5 Re-formation, regeneration
 - .5 Phenomena of ageing
 - .55 Lignification of cells (woody-tissue formation)
- .149 **Longevity. Death**
- 581.15 **VARIATIONS**
→575.2 Variation — Genetics
- .151 Variations due to external causes. Modifications
→581.5 Habits of plants. Ecology. Ethology. The plant and its environment
 - .154 Hereditary variations. Mutations
Selection, hybridization etc. may be denoted by colon combination with the subdivisions of 57
- 581.16 **REPRODUCTION**
→57.017.5 Reproduction. Sex and sexuality
575 General genetics
- .162 **Sexual reproduction**
 - .1 Reduction of chromosomes. Meiosis (reduction division). Formation of germ-cells, spores
 - .2 Formation of sex cells
 - .3 Pollination
 - .31 Self-pollination (autogamy)
 - .32 Cross-pollination (allogamy)
 - .4 Physiology of fertilization in the strict sense
 - .41 Pollen germination
 - .163 **Apomixis. Parthenogenesis. Apospory. Apogamy**
 - .164 **Sterility**
 - .165 **Organs of vegetative reproduction**
 - .1 Reproduction by suckers, bulbils, tubers, soredia, hormogonia and other organs of vegetative reproduction. Adventive embryology
 - .7 Special methods
 - .71 Grafting
 - .711 Stock
 - .712 Scion
 - .72 Propagation by cuttings
 - .73 Layering
 - .166 **Alternation of generations. Alternating forms**
 - .169 **Heredity**
Further particulars may be denoted by colon combination with 575.1
- 581.17 **PHYSIOLOGY OF THE CELL**
→576.3 General cytology
- .174 **Plastids (organelles, protoplasmic cell inclusions)**
→581.134 Reserve substances, their formation and distribution in the plant
 - .1/.2 Chromoplasts or chromatophores (pigmented plastids)
 - .1 Chloroplasts. Quantosomes
 - .2 Chromoplasts (other than chloroplasts)
 - .3 Leucoplasts (colourless plastids)
 - .4 Aleurone grains [*cancelled; aleurone grains are not plastids*] → 581.134.4, 581.176.4
 - .9 Other plastids
 - .175 **Cell sap**
 - .1 Constituents of cell sap and substances dissolved in it
 - .11 Pigments
 - .19 Other substances
- 581.176 **General physiology of tissues from the point of view of cell physiology**
→581.8 Plant histology
- .1 Conducting tissues
 - .2 Supporting (mechanical) tissues
 - .3 Protective tissues
 - .4 Reserve cell tissue, including aleurone layer
- 581.18 **MOVEMENTS. SENSIBILITY**
→576.32 Mechanical activity of the cell-Cytology
577.25 Molecular mechanisms of sensitivity, reception and response to stimuli. Molecular neurobiology
- .181 **Protoplasmic movements. Taxis of protoplasm**
 - .182 **Hygroscopic movements**
 - .1 Cohesion mechanisms. Dehiscence of anthers. Projection of spores
 - .3 Swelling mechanisms. Shrinking. Swelling
 - .183 **Paratonic (induced) movements in general: bending, irritation-response movements**
For particular paratonic movements
→ 581.184/.185
Further particulars may be denoted by the special auxiliary subdivisions listed under 58, e.g.
581.183.02 External stimuli, irritations in general
 - .184 **Tropisms**
 - .1 Geotropism
 - .2 Tropisms in response to water, humidity
 - .21 Hydrotropism
 - .22 Osmotropism (movement in response to concentration differences)
 - .26 Rheotropism (movement in response to flow)
 - .4 Chemotropism. Aerotropism (movement in response to gas concentration)
 - .5 Phototropism (heliotropism). Radiotropism
 - .6 Thermotropism
 - .7 Electrotropism. Galvanotropism
 - .8 Haptotropism (thigmotropism)
 - .9 Other tropisms
 - .91 Traumatotropism
 - .185 **Nastic movements**
 - .2 Nyctinastic movement. Night (dormant) state, periodic activity
 - .3 Seismonastic movement (movement in response to mechanical shock, in Mimosa, Biophytum etc.)
 - .186 **Autonomous movements of nutation and variation**
 - .1 Autonomous movements of variation
 - .3 Hyponasty. Epinasty
 - .4 Nutation (growth curvature)
 - .9 Others
 - .188 **Movement of locomotion. Taxis**
 - .1 Autonomous movements of locomotion
 - .12 Natatory (swimming) movements. Flagella movements
 - .13 Creeping movements. Amoeboid movements
 - .2 Hydrotaxis
 - .3 Osmotaxis
 - .4 Chemotaxis
 - .5 Phototaxis
 - .6 Thermotaxis
 - .7 Galvanotaxis. Electrotaxis
 - .9 Other tactic movements
 - .189 **Other movements**
 - .1 Projection due to movements of variation and nutation. Projection of seeds, spores
 - .15 Choris, chorism (division, separation processes; shedding, casting of organs)

581.19	CHEMICAL CONSTITUENTS OF PLANTS <i>Particular constituents may be denoted by colon combination with the subdivisions of 546 and 547, especially 547.9</i>	581.444	Ramification (branching)
		.445	Differentiation
		.446	Modification
.192	Chemical composition of the plant	.1	Aerial stems: cladodes, spines, stem-tendrils (cirri), climbing stems, runners (stolons) etc.
.1	Composition of the ash	.15	Climbing stems
.2	Organic compounds	.2	Subterranean stems: rhizomes, bulbs, corms, tubers, underground runners (stolons)
.4	Elements and compounds essential to the plant		
.5	Inessential elements and compounds	581.45	LEAVES. LAMINAE, PETIOLES, LEAF SCARS, LEAF BASES
.6	Noxious and toxic elements and compounds	.451	General characteristics
.7	Stimulants	.452	Origin of the leaf. Arrangement
.8	Mutual effect of constituents. Protective action of salts	.454	Ramification. Venation
.198	Internal reactions	.456	Modification of leaves and of parts of leaves.
.199	Physiology of fermentations →577.15 Enzymes. Catalysts of biological reactions. Enzymology		Spines, phyllodes, leaf tendrils (cirrous leaves), sporophylls
581.2	PLANT DISEASES. PLANT PATHOLOGY. PHYTOPATHOLOGY. MALFORMATION 581.2 ≅ 632 optionally; but if in doubt, prefer 632	581.46	FLOWERS
		.461	General characteristics
		.462	Origin of the flower
		.465	Differentiation
581.3	EMBRYOLOGY OF PLANTS →57.089.3 Embryological techniques	.466	Modification of parts of flowers
	581.14 Development	581.47	FRUIT
	581.16 Reproduction	.471	General characteristics
581.32	OVULES. THECAE. SPOROGONIA	581.48	SEEDS
.321	Ovules. Thecae		→581.3 Embryology of plants
.1	Ovules	.481	Embryo
.2	Thecae	.483	Endosperm
.322	Sporogonia. Sporangia	581.49	OTHER ORGANS. SURFACE APPENDAGES: STIPULES, STIPELS, OCHREAE (OCREAE), LIGULES, HAIRS (TRICHOMES), EMERGENCES (PRICKLES ETC.), GLANDS, STOMATA, PORES
581.33	EMBRYO SACS. POLLEN GRAINS. SPORES		General characteristics
.331	Embryo sacs. Pollen grains	.491	Origin
.1	Embryo sacs	.492	Differentiation
.2	Pollen grains	.495	Modifications
.332	Spores (asexual reproductive cells)	.496	
581.34	ANTHERIDIA (MALE SEXUAL ORGANS). OÖGONIA (FEMALE SEXUAL ORGANS). ARCHEGONIA	581.5	HABITS OF PLANTS, ECOLOGY, ETHOLOGY. THE PLANT AND ITS ENVIRONMENT. BIONOMICS <i>For frost action and frozen soil</i> → 551.34, 581.526.55 or use colon combination: 581.5:551.34 Vegetation on frozen soil
581.35	EGG CELLS. SPERMATIZOIDS ETC. GAMETES	581.51	INSTINCT
.351	Egg cells. Spermatozoids etc.		
.1	Egg cells (ova)	581.52	ENVIRONMENT. HABITAT
.2	Spermatozoids and similar bodies	.522	Individual ecology. Autecology
.352	Gametes	.4	Adjustment. Acclimatization
.1	Isogametes	.5	Ecological anatomy. Correlation of structure and environment. Advantageous or adaptive structure
.2	Anisogametes (heterogametes)	.6	Migration. Dissemination
581.4	PLANT MORPHOLOGY. PLANT ANATOMY	.61	Theoretical and general questions. Centres of distribution, migration routes etc.
581.41	GENERAL MORPHOLOGY	.62	Dissemination by wind
.412	Various plant forms. Trees etc.	.63	Dissemination by water
581.42	THALLUS. ORGANS OF LOWER ORGANISMS →581.144.1 Thallus — Physiology of the development of the vegetative organs	.632	Dissemination by glaciers
		.64	Dissemination by gravity
581.43	ROOTS. ORGANS OF NUTRITION	.65	Dissemination by propulsion
.431	General characteristics. Root cap. Root hairs	.66	Dissemination by offshoots, runners etc.
.432	Origin of the root	.67	Dissemination by animals
.435	Differentiation	.68	Dissemination by humans
.436	Modification. Climbing (cirrous, tendril-like) roots. Aerial roots etc.	.69	Other means
581.44	STEMS (AXES)		
.441	General characteristics. Neck, hypocotyl. Nodes. Internodes. Terminal buds		
.442	Origin of the stem		

581.524	Associational ecology. Synecology	581.526.35	Bog and high-moor formations
.1	Theoretical and general questions. Mutual influences of living organisms	.4	Mesic formations. Mesophytes
.12	Nature of competition	.42	Forest formations
.14	Natural pruning	.422	Rain-forest formations
.15	Toxic effects	.2	Tropic
.2	Invasion	.3	Temperate
.3	Succession	.423	Monsoon-forest formations
.31	Theoretical and general questions. Dynamic relations	.424	Savannah-woodland formations
.32	Succession correlated with physiographic factors. Physiographic ecology	.425	Deciduous or hardwood-forest formations
.322	Succession following seismologic disturbances	.426	Evergreen-forest formations
.323	Succession following erosion and deposition	.2	Conifer
.1	Following glaciation	.3	Krummholz. Elfin wood
.5	Following aqueous erosion and river activity	.4	Sclerophyll
.7	Following wind erosion and deposition	.427	Thorny-forest formations
.72	Blow-outs	.43	Vines. Climbing plants. Lianas
.73	Dunes	.44	Epiphytes
.8	Following landslides	.45	Prairie formations
.324	Succession due to orographic movement	.5	Xeric formations. Xerophytes
.325	Succession in lake-swamp-meadow series	.52	Halic formations. Halophytes
.326	Succession following floods and breaking of dams	.522	Salt-marsh formations
.33	Succession following disturbances by animal agencies	.523	Alkali-land formations
.34	Succession following disturbance by humans	.53	Desert and semi-desert formations
.342	Burnt area, including areas burnt by other agencies, e.g. lightning	.532	Chaparral formations
.343	Lumbered area. Natural reforestation →634.0.232 Artificial regeneration — Forestry	.533	Tundra or cold-desert formations
.344	Following cultivation	.534	Arid or dry-desert formations
.346	Following drainage	.535	Strand formations
.347	Following irrigation	.2	Mangrove formation (formation dominated by species of <i>Rhizophora</i>)
.4	Zonation	.3	Nipa formation [formation dominated by the Nipa palm (<i>Nipa fruticans</i> Wurmb)]
.41	Theoretical and general questions. Causes of zonation	.536	Dune formations →581.524.323.73 Dunes — Succession
.42	Horizontal zonation	.54	Rock surface formations
.43	Vertical zonation	.55	Snow and ice formations →551.34 Effect of frost on rock and soil. Frozen soil. Permafrost
.44	Climatic zones	.56	Crater-formations. Crater plants
.441	Arctic regions: polar-niveal	.527	Floristics. Floral regions →581.9 Geographic botany (plant geography)
.442	Temperate regions	.1	Theoretical and general questions
.5	Subtropics	.2	Floral regions and their delimitation
.443	Tropics	.3	Cosmopolitanism
.444	Alpine regions	.4	Endemism
.2	Arctic-alpine	.5	Barriers
.3	Boreal-subalpine	.6	Polyphylesis
.5	Alternation	.7	Adventive plants
.526	Formational ecology	.8	Statistical floristics
.1	General physiognomy and aspect	.9	Other questions
.2	Factors determining occurrence and extent of formations	581.54	CLIMATIC CONDITIONS. SEASONS. COSMIC FACTORS CONSIDERED ECOLOGICALLY <i>Further particulars may be denoted by the special auxiliary subdivisions listed under 58</i>
.3	Hydric formations. Hydrophytes	.543	Seasonal habits. Phenology
.32	Aquatic formations	.2	Spring
.322	Running-water	.3	Summer
.323	Benthos: flora attached to bottom of sea, streams etc.	.4	Autumn
.2	Freshwater	.5	Winter
.3	Saltwater	.6	Periods of quiescence, dormancy, suspended animation. Hibernation, encystment etc.
.4	Brackish-water, foul-water	581.55	SOCIABILITY. PLANT ASSOCIATIONS AND ASSOCIES
.324	Pleuston: submerged, free-swimming or floating freshwater flora, found specially in quiet water under shelving banks	.552	Consociations. Consocieties. Dominant groups within an association
.325	Plankton. Pelagic botany. Free-swimming or floating surface flora	.554	Colonies. Small groups on otherwise bare areas
.2	Freshwater	.555	Climax and seral communities
.3	Saltwater	.2	Climax communities
.4	Brackish-water, foul-water	.22	Edaphic
.326	Hot-water	.3	Seral communities
.33	Freshwater-swamp and low-moor formations →581.526.522 Salt-marsh formations	.557	Symbiosis. Consortism
.337	Nibung formation [formation dominated by the Nibung palm (<i>Oncosperma filamentosum</i> Bl.)]	.2	Mutualistic
.34	Heath formations	.22	Commensalism. Mutualism. Messmatism
		.23	Prototrophy
		.24	Mycorrhiza

581.557.25	Myrmecophilism. Myrmecophytes. Acarophilism	581.82	VARIOUS KINDS OF TISSUE
.3	Conjunctive	.821	Tegumentary tissues. Epidermis
.32	Individualism	.1	Stomatal apparatus. Stomata. Cuticles
.33	Helotism	.2	Suberose tissue, cork. Hairs. Papillae.
.4	Contingent		Epidermal glands. Emergences. Tentacles.
.42	Nutricism		Piliferous layers
.5	Disjunctive	.822	Secretory tissues
.52	Metabiosis	.823	Ground tissues. Parenchyma.
.6	Antagonistic. Antipathetic		Sclerenchyma. Collenchyma
.62	Syntrophism	.824	Vascular tissues
.63	Parasitism	.1	Xylem
	<i>For parasitic diseases → 581.2, 632.3/.8</i>	.2	Phloem
	<i>For parasitic plants → 576.88, 582, 632.53</i>	.825	Aerative tissues
581.56	BREEDING HABITS	.1	Lenticels
		.2	Aerenchyma
581.57	MEANS OF PROTECTION AND ATTRACTION. ADAPTATIONS FOR SELF-PRESERVATION	.829	Other tissues
.572	Against mechanical forces	581.84	STRUCTURE OF ORGANS FROM A HISTOLOGICAL POINT OF VIEW. COSMIC FACTORS IN THE STRUCTURE OF ORGANS
.2	Solidity of organs		581.84 $\cong$ 581.4
.3	Attachment of organs		
.4	Sensitivity. Sensitive plants		
.573	Against plants and animals	581.9	GEOGRAPHIC BOTANY (PLANT GEOGRAPHY). FLORAS. GEOGRAPHIC DISTRIBUTION OF PLANTS
	<i>For symbiotic protection → 581.557</i>		→581.527 Floristics. Floral regions
.2	Anatomic means: spines etc.		<i>Further particulars may be denoted by</i>
.4	Chemical means: secretions, raphides etc.		<i>Table I(e) Common auxiliaries of place, e.g.</i>
.5	Electric means		581.9(24) Underground flora (of caves etc.)
.7	Deceptive means: mimicry, protective resemblance		(83) Flora of Chile
.574	Means of attraction. Fascination		<i>combined if required, e.g.</i>
581.6	APPLIED BOTANY. USE OF PLANTS. TECHNOBOTANY. ECONOMIC BOTANY		581.9(24:83) Cave flora of Chile
	<i>Here is classed information about economic aspects of plants that is not provided for under 63</i>		(83:24)
			<i>For private files and as added entries, subdivision may be made in parallel with 582 Systematic botany, replacing the digits 582 with a hyphen, e.g.</i>
581.8	PLANT HISTOLOGY		581.9(83)-842.7 Flora of Chile: passifloraceae (from 582.842.7)
	<i>For general cytology → 576.3</i>		
	<i>For plant cytology → 581.17</i>		
581.81	GENERAL CHARACTERISTICS OF TISSUES		
.811	Origin and nature of tissues		
.812	Formation of tissues		
.815	Modification of tissues		
.817	Growth of tissues. Cambial activity.		
	Secondary meristems		
	→581.143 Growth		