

Bodenökologische Zeigerwerte der Waldflora der Schweiz

- Die Zeigerwerte gelten für die Bodentiefe 0-10 cm.
- Der Zusammenhang zwischen den fünfstufigen Zeigerwerten und den Bodeneigenschaften ist am Schluss des Dokumentes tabellarisch dargestellt.

Pflanzenart	Anzahl Stichproben	Vernässungsgrad Boden	Mächtigkeit F, H, Ahh	pH-Wert (CaCl ₂)	Basensättigung	Vorkommen von Kalk	C/N-Verhältnis	Kationen-Austauschkapazität	Humusgehalt
<i>Abies alba</i>	82	1-2	1-3	1-4	3-5	3	3-4	3-5	2-4
<i>Acer platanoides</i>	14	1	1-2	4	5	4	3-4	4-5	3-4
<i>Acer pseudoplatanus</i>	90	1-2	1-2	2-4	3-5	3	3-4	3-5	2-4
<i>Achillea millefolium</i>	18	1	1-3	2-4	3-5	3	1-4	3-4	3-4
<i>Adenostyles alliariae</i>	19	1-3	1-2	2-4	4-5	3	3-4	3-5	3-4
<i>Adenostyles glabra</i>	10	1	1	3-4	5	3	3-4	3-5	2-4
<i>Aegopodium podagraria</i>	14	1	1	2-5	4-5	3	3-4	3-4	2-3
<i>Agrostis gigantea</i>	16	1	1-4	1-3	1-5	1	2-4	2-3	2-4
<i>Agrostis tenuis</i>	21	1-2	1-3	1-4	3-5	2	2-4	2-4	2-4
<i>Ajuga reptans</i>	38	1-2	1-2	2-4	4-5	3	3-4	3-5	2-4
<i>Alchemilla vulgaris</i>	19	1-2	1-3	2-4	3-5	3	3-4	3-5	2-4
<i>Anemone nemorosa</i>	31	1-2	1-2	1-4	2-5	2	3-4	2-4	2-3
<i>Angelica sylvestris</i>	10	1-2	1	3-4	5	3	4	4-5	3-4
<i>Anthoxanthum odoratum</i>	15	1	1-4	1-3	1-5	1	2-4	2-4	2-4
<i>Arum maculatum</i>	13	1-2	1	3-5	5	3	4-5	3-5	2-3
<i>Aruncus dioicus</i>	13	1-2	1	2-4	3-5	2	3-4	2-4	2-4
<i>Asplenium trichomanes</i>	17	1	1-3	2-4	5	3	3-4	3-5	3-4
<i>Asplenium viride</i>	11	1-3	1-2	2-3	4-5	2	2-4	3-5	3-5
<i>Aster bellidiastrum</i>	11	1	1-2	3-4	5	3	3-4	3-5	2-4
<i>Athyrium filix-femina</i>	62	1-3	1-3	1-4	2-5	2	3-4	2-5	2-4
<i>Avenella flexuosa</i>	44	1	2-4	1-3	1-5	2	2-3	2-3	3-4
<i>Betula pendula</i>	10	1	1-3	2-4	3-5	2	3-4	2-3	2-4
<i>Brachypodium pinnatum</i>	16	1	1-2	3-4	5	3	3-4	3-4	3
<i>Brachypodium sylvaticum</i>	31	1	1	3-5	5	3	4	3-5	2-4
<i>Calamagrostis varia</i>	14	1	1-4	4-5	5	4	3-4	3-5	2-4
<i>Calamagrostis villosa</i>	36	1	1-4	1-4	3-5	3	2-3	3-5	3-4
<i>Calluna vulgaris</i>	12	1	1-4	1-2	1-3	1	2-3	2-3	3-4
<i>Campanula cochlearifolia</i>	15	1	1-5	2-4	5	3	2-4	3-5	2-5
<i>Campanula rotundifolia</i>	28	1	1-3	2-5	3-5	3	2-4	2-5	2-4
<i>Cardamine flexuosa</i>	15	1-4	1-2	1-4	2-5	2	3-4	2-5	2-3
<i>Carex alba</i>	15	1	1-2	4-5	5	3	3-4	3-5	2-5
<i>Carex digitata</i>	50	1	1-2	2-5	4-5	3	3-4	2-5	2-4
<i>Carex flacca</i>	35	1-2	1-2	3-5	5	3	3-4	3-5	2-4
<i>Carex montana</i>	10	1	1-2	4	5	3	3-4	3-5	3-4
<i>Carex ornithopoda</i>	13	1	1-3	3-5	5	3	3-4	4-5	3-5
<i>Carex sylvatica</i>	63	1-2	1-2	2-4	2-5	3	3-4	2-5	2-3
<i>Centaurea montana</i>	17	1-4	1	3-4	5	3	3-4	3-5	2-4
<i>Chaerophyllum hirsutum</i>	31	1	1-3	2-4	3-5	2	2-4	3-4	2-4
<i>Circaea lutetiana</i>	28	1-2	1-2	1-5	2-5	3	3-4	2-5	2-3
<i>Cirsium oleraceum</i>	14	1-2	1	3-4	5	3	4	3-5	2-4
<i>Clematis vitalba</i>	11	1	1-2	3-4	4-5	3	3-4	2-5	2-4
<i>Cornus sanguinea</i>	19	1	1	4-5	5	4	3-5	4-5	2-4

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Coronilla emerus	17	1	1-2	4-5	5	4	3-4	3-5	3-5
Corylus avellana	47	1-2	1-2	2-5	3-5	3	3-4	3-5	2-4
Crataegus monogyna	20	1-2	1	3-5	5	3	3-5	3-5	2-4
Crepis paludosa	15	1-5	1-2	3-4	5	3	3-4	3-5	2-3
Dactylis glomerata	32	1	1-2	2-4	3-5	3	3-4	3-5	2-4
Dactylorhiza maculata	16	1-2	1-4	2-4	3-5	3	2-4	3-5	3-4
Daphne mezereum	11	1	1-3	4-5	5	5	3-4	4-5	3-4
Dentaria heptaphylla	13	1	1	4-5	5	4	3-4	5	3-5
Deschampsia caespitosa	21	1-5	1-2	1-4	3-5	2	3-4	3-4	2-3
Dryopteris affinis ssp.borreri	13	1-2	1	1-3	3-5	2	3-4	3-4	2-4
Dryopteris carthusiana	18	1-2	1-2	1-4	2-5	3	3-4	3-5	2-4
Dryopteris dilatata	50	1-3	1-4	1-3	2-5	2	2-4	2-5	2-4
Dryopteris filix-mas	54	1-2	1-2	2-4	3-5	3	3-4	3-5	2-4
Epilobium angustifolium	15	1	2-4	1-2	2-3	1	1-3	2-3	2-4
Epilobium montanum	31	1-2	1-2	2-4	4-5	3	3-4	3-5	2-4
Epipactis atrorubens	16	1	1-2	3-5	5	3	2-4	3-5	2-4
Epipactis helleborine	15	1	1-3	3-5	5	3	3-4	3-5	2-5
Equisetum arvense	17	1-5	1-2	2-4	4-5	3	3-4	3-5	2-3
Euphorbia amygdaloides	16	1	1	4-5	5	3	3-4	4-5	3-4
Euphorbia cyparissias	10	1	1-3	2-4	5	3	2-3	3-4	3-4
Fagus sylvatica	95	1-2	1-2	1-4	2-5	3	3-4	2-5	2-4
Festuca ovina	10	1	1-3	1-4	1-5	3	2-3	3-5	3-4
Festuca rubra	26	1-2	1-3	2-4	3-5	2	3-4	3-4	2-3
Fragaria vesca	92	1-2	1-2	2-4	4-5	3	3-4	3-5	2-4
Fraxinus excelsior	74	1-2	1-2	3-5	4-5	3	3-4	3-5	2-4
Galeopsis tetrahit	44	1-2	1-2	1-4	2-5	2	3-4	2-4	2-3
Galium anisophyllum	12	1	1-3	2-5	4-5	3	3-4	3-5	3-4
Galium aparine	13	1	1-2	2-4	3-5	3	3-4	2-5	2-4
Galium mollugo	12	1	1-3	3-5	5	4	3-4	4-5	3-5
Galium odoratum	64	1-2	1-2	2-5	3-5	3	3-4	3-5	2-4
Galium pumilum	20	1	1-3	2-4	5	2	2-4	3-4	2-4
Galium rotundifolium	16	1-2	1-3	2-4	3-5	2	2-4	3-5	2-4
Geranium robertianum	49	1-2	1-2	2-4	3-5	3	3-4	3-5	2-4
Geranium sylvaticum	26	1	1-4	1-4	3-5	3	2-4	2-5	2-4
Geum urbanum	26	1-2	1-2	3-4	5	3	3-4	3-5	2-3
Gymnocarpium dryopteris	19	1	1-4	1-3	3-5	2	2-4	3-5	2-5
Hedera helix	59	1-2	1-2	2-5	4-5	3	3-4	3-5	2-4
Helleborus foetidus	11	1	1	4-5	5	4	3-4	5	3-5
Hepatica nobilis	13	1	1-3	3-4	5	3	2-4	3-4	2-4
Heracleum sphondylium	21	1-2	1-2	2-5	4-5	3	4	3-5	2-3
Hieracium murorum	88	1	1-4	1-4	3-5	3	2-4	3-5	2-4
Hieracium pilosella	15	1	1-3	1-4	3-5	2	2-4	3-4	3-4
Homogyne alpina	33	1	1-4	1-3	2-5	2	2-3	3-4	3-5
Hordelymus europaeus	22	1-3	1	3-4	5	3	3-4	4-5	3-4
Huperzia selago	12	1	1-4	1-4	3-5	3	2-4	3-5	3-5
Hypericum montanum	12	1	1-3	2-4	3-5	3	2-4	3-5	3-4

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Ilex aquifolium	18	1	1-2	1-4	2-5	3	3-4	3-5	2-5
Impatiens noli-tangere	12	1-3	1-2	1-4	2-5	2	3-4	2-4	2-4
Juniperus communis	12	1	2-4	1-3	2-5	2	2-3	2-3	2-4
Knautia dipsacifolia	42	1	1-3	2-4	4-5	3	3-4	3-5	2-4
Lamiasstrum montanum	58	1-2	1	2-4	4-5	3	3-4	3-5	2-4
Larix decidua	13	1	1-4	1-2	2-4	1	1-3	2-3	2-5
Lathyrus pratensis	13	1	1-2	3-4	5	3	3-4	3-5	2-4
Lathyrus vernus	15	1	1	4-5	5	4	3-4	4-5	3-4
Leontodon helveticus	12	1	3-4	1-2	1-3	1	1-2	2-3	3-4
Leucanthemum vulgare	18	1	1-2	3-4	5	3	3-4	3-5	2-4
Ligustrum vulgare	12	1-2	1	3-5	5	3	4-5	3-5	2-3
Lonicera alpigena	22	1	1	3-5	5	3	3-4	3-5	3-4
Lonicera nigra	25	1-3	1-4	1-4	3-5	2	2-4	3-5	3-5
Lonicera xylosteum	34	1	1	3-5	5	3	3-4	3-5	2-4
Lotus alpinus	11	1	1-4	1-4	3-5	3	1-4	3-5	3-5
Lotus corniculatus	12	1	1-3	3-4	5	3	2-4	3-5	2-4
Luzula luzuloides	13	1	1-3	1-2	2-3	1	2-3	2-3	2-4
Luzula nivea	32	1	1-3	1-3	1-5	2	2-3	2-3	2-4
Luzula pilosa	18	1-2	1-3	1-4	2-5	2	3-4	3-4	2-4
Luzula sylvatica	42	1	1-4	1-4	3-5	2	2-4	3-5	2-4
Lysimachia nemorum	23	1-5	1-2	1-4	2-5	2	3-4	3-4	2-3
Maianthemum bifolium	34	1	1-3	1-3	1-5	2	2-4	2-4	3-4
Melampyrum sylvaticum	34	1	1-4	1-4	2-5	2	2-3	2-4	2-4
Melica nutans	24	1	1-2	3-4	5	3	3-4	3-5	3-4
Mercurialis perennis	45	1	1	4-5	5	4	3-4	4-5	3-4
Milium effusum	18	1	1-2	1-4	2-5	2	3-5	2-4	2-4
Moehringia trinervia	10	1-2	1-2	1-4	2-5	3	3-4	2-5	2-4
Molinia arundinacea	16	1	1-2	2-4	1-5	3	2-4	2-4	3-4
Mycelis muralis	29	1	1-2	2-5	3-5	3	3-4	3-5	2-4
Neottia nidus-avis	15	1	1-3	4-5	5	4	3-4	4-5	3-4
Oreopteris limbosperma	12	1	1-4	1-2	1-4	1	2-4	2-3	2-4
Origanum vulgare	14	1	1	3-5	5	3	3-4	3-5	3-4
Orthilia secunda	12	1	2-4	3-5	5	4	2-3	3-5	2-5
Oxalis acetosella	85	1-2	1-4	1-4	2-5	2	2-4	2-5	2-4
Paris quadrifolia	41	1-2	1-2	2-5	4-5	3	3-4	3-5	2-4
Petasites albus	17	1-2	1-2	3-4	4-5	2	3-4	3-5	3-4
Phyteuma betonicifolium	19	1	1-4	1-3	1-5	2	2-3	2-3	3-4
Phyteuma orbiculare	10	1	1-3	2-5	3-5	3	2-4	3-4	2-4
Phyteuma spicatum	56	1-2	1-2	2-4	4-5	3	3-4	3-5	2-4
Picea abies	103	1-2	1-3	1-4	2-5	3	2-4	3-5	2-4
Pimpinella saxifraga	11	1	1-2	3-5	5	3	3-4	3-5	2-4
Poa annua	10	1	1-3	1-3	1-4	2	3-4	2-4	2-4
Poa nemoralis	17	1	1-3	2-4	4-5	2	2-4	3-4	2-4
Polygala chamaebuxus	17	1	1-4	2-4	3-5	3	2-4	3-4	2-4
Polygonatum multiflorum	35	1-2	1-2	1-5	2-5	3	3-5	2-5	2-4
Polygonatum verticillatum	34	1-2	1-2	2-4	4-5	3	3-4	3-5	2-4

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<i>Polypodium vulgare</i>	16	1-2	1-3	1-4	3-5	2	2-4	3-4	2-4
<i>Polystichum aculeatum</i>	17	1-4	1	2-5	5	3	3-4	3-5	3-4
<i>Potentilla erecta</i>	33	1	1-4	1-4	2-5	2	2-4	2-4	2-4
<i>Prenanthes purpurea</i>	69	1-2	1-3	2-4	3-5	3	3-4	3-5	3-4
<i>Primula elatior</i>	44	1-2	1	3-4	5	3	3-4	3-5	2-4
<i>Prunella vulgaris</i>	13	1	1-3	3-5	5	3	3-4	3-5	2-4
<i>Prunus avium</i>	27	1-2	1-2	2-5	4-5	3	3-4	3-5	2-3
<i>Pteridium aquilinum</i>	21	1-2	1-3	1-4	2-5	2	2-4	2-4	3-4
<i>Quercus petraea</i>	15	1	1-2	2-4	2-5	3	2-3	2-4	3-4
<i>Quercus robur</i>	24	1-2	1-3	1-4	3-5	3	3-4	2-5	2-4
<i>Ranunculus aconitifolius</i>	10	1	1	2-4	5	3	3-4	4-5	3-5
<i>Ranunculus lanuginosus</i>	14	1-5	1	2-4	5	3	3-4	3-5	3-4
<i>Ranunculus montanus</i>	19	1	1-4	1-4	1-5	2	1-4	2-5	3-4
<i>Ranunculus nemorosus</i>	10	1	1-2	2-4	3-5	3	4	3-5	2-3
<i>Ranunculus repens</i>	15	1-2	1-3	1-4	2-5	3	3-4	3-5	2-4
<i>Rhododendron ferrugineum</i>	15	1	3-5	1-2	1-4	1	1-3	2-4	3-5
<i>Rosa arvensis</i>	40	1-2	1-2	3-4	5	3	3-4	3-5	2-4
<i>Rosa pendulina</i>	19	1	1-2	2-4	5	3	3-4	3-5	2-5
<i>Rubus caesius</i>	11	1-2	1	4-5	5	3	4-5	4-5	2-3
<i>Rubus fruticosus</i>	77	1-2	1-2	1-4	2-5	3	3-4	2-5	2-4
<i>Rubus idaeus</i>	73	1-2	1-3	1-4	3-5	2	2-4	2-5	2-4
<i>Rubus saxatilis</i>	19	1	1-4	3-5	5	4	2-4	3-5	3-5
<i>Salix caprea</i>	13	1	1-4	1-4	3-5	2	2-4	2-5	2-5
<i>Sambucus nigra</i>	21	1-2	1-2	1-4	2-5	3	3-4	2-5	2-4
<i>Sambucus racemosa</i>	16	1	1-3	1-4	2-5	2	3-4	3-4	2-3
<i>Sanguisorba minor</i>	10	1-2	1-2	3-4	4-5	3	4	3-4	2-3
<i>Sanicula europaea</i>	23	1-4	1	3-4	5	3	3-4	3-5	3-4
<i>Saxifraga rotundifolia</i>	16	1-3	1-4	1-4	3-5	2	2-4	3-5	3-5
<i>Senecio fuchsii</i>	17	1	1-3	2-4	3-5	3	3-4	3-5	3-4
<i>Sesleria albicans</i>	17	1	1-4	4-5	5	4	3-4	4-5	3-5
<i>Silene vulgaris</i>	15	1	1-3	2-4	3-5	3	2-4	2-5	2-4
<i>Solidago virgaurea</i>	79	1	1-4	2-4	3-5	3	2-4	3-5	2-4
<i>Sorbus aria</i>	43	1	1-3	2-5	3-5	3	3-4	3-5	3-4
<i>Sorbus aucuparia</i>	82	1-2	1-4	1-4	2-5	2	2-4	3-5	2-4
<i>Sorbus mougeotii</i>	10	1-2	1-2	2-5	4-5	3	3-4	3-5	3-4
<i>Stachys sylvatica</i>	21	1-2	1	2-5	4-5	3	4	2-5	2-3
<i>Taraxacum officinale</i>	30	1	1-2	2-4	2-5	3	3-4	3-5	2-4
<i>Teucrium chamaedrys</i>	10	1	1-2	3-5	5	3	3-4	3-5	3-5
<i>Thalictrum aquilegifolium</i>	10	1	1-2	2-4	4-5	3	3-4	3-5	2-4
<i>Thesium alpinum</i>	15	1	1-4	3-5	4-5	3	3-4	3-5	3-5
<i>Thymus pulegioides</i>	21	1	1-2	3-5	5	3	3-4	3-5	3-4
<i>Trifolium pratense</i>	14	1	1-3	2-4	3-5	2	2-4	3-4	3-4
<i>Tussilago farfara</i>	18	1-2	1-3	3-4	5	3	3-4	3-5	2-3
<i>Ulmus glabra</i>	11	1-4	1	3-5	5	3	4	4-5	3-4
<i>Urtica dioica</i>	24	1	1-3	1-4	2-5	2	3-4	2-4	2-4
<i>Vaccinium myrtillus</i>	76	1-2	1-4	1-4	2-5	2	2-4	2-5	3-4

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Vaccinium vitis-idaea	28	1	2-4	1-3	2-5	2	1-3	3-5	3-5
Valeriana officinalis	18	1	1	2-5	5	3	4	3-5	2-3
Valeriana tripteris	33	1	1-4	2-4	3-5	3	2-4	3-5	2-5
Veronica chamaedrys	24	1	1-3	1-4	2-5	3	3-4	3-5	2-4
Veronica officinalis	34	1	1-3	1-4	3-5	2	2-4	2-4	2-3
Veronica urticifolia	38	1	1-3	2-4	4-5	3	2-4	3-5	2-4
Viburnum lantana	18	1	1-2	4-5	5	4	3-4	4-5	3-5
Viburnum opulus	21	1-2	1	3-5	5	3	3-5	3-5	2-4
Vicia sepium	21	1	1-2	3-5	5	3	3-4	3-5	3-4
Vincetoxicum hirsutinaria	18	1	1-2	3-5	5	3	3-4	3-5	3-5
Viola biflora	24	1	1-3	2-4	4-5	2	3-4	3-5	2-4
Viola reichenbachiana	66	1-2	1-2	2-4	3-5	3	3-4	3-5	2-4

Bodeneigenschaft	Klassierungshinweis	Einheit	Zeigerwerte				
			1	2	3	4	5
Vernässungsgrad	Vernässungsstufen 0-6	-	0-1	2	3	4	5-6
Mächtigkeit F, H, Ahh	-	[cm]	<1	1-2.5	2.5-5	5-10	>10
pH-Wert (CaCl ₂)	-	-	<3.8	3.8-4.6	4.6-5.6	5.6-7.0	>7.0
Basensättigung	-	[%]	<15	15-30	30-70	70-85	>85
Vorkommen von Kalk	Anteil der Proben mit Kalk	[%]	<10	10-30	30-70	70-90	>90
C/N-Verhältnis	-	-	>26	21-26	17-21	13-17	<13
Kationen-Austauschkapazität	-	[mmol _c /kg]	<50	50-100	100-200	200-300	>300
Humusgehalt	Humus = C _{org} x 1.72	[%]	<3.5	3.5-7.5	7.5-15	15-30	>30