|  |  |  |  |
| --- | --- | --- | --- |
| Taxa/Treatments | GG | MG | NG |
| *Acer campestre* L. | - | - | 0.01 |
| *Achillea millefolium* L. | - | - | 0.48 |
| *Aegilops geniculata Roth* | 0.24 | - | - |
| *Agrimonia eupatoria* L. | - | - | 0.44 |
| *Ajuga chamaepitys* (L.) Schreb. | 0.18 | 0.15 | - |
| *Alyssum alyssoides* (L.) L. | 0.66 | 0.40 | - |
| *Alyssum simplex* Rudolphi | 0.26 | 0.03 | - |
| *Anisantha diandrus* (Roth) Tutin ex Tzvelev | 0.04 | 0.06 | - |
| *Anisantha lanceolatus Roth* | 0.06 | 0.03 | 0.06 |
| *Anisantha madritensis* (L.) Nevski | 0.77 | 0.53 | 0.06 |
| *Anisantha rubens* (L.) Nevski | 0.23 | - | - |
| *Anisantha sterilis* (L.) Nevski | 0.43 | 0.06 | - |
| *Anisantha tectorum* (L.) Nevski | - | 0.06 | 0.01 |
| *Arenaria leptoclados* (Rchb.) Guss. | 0.53 | 0.37 | - |
| *Arenaria serpyllifolia* L. | 0.50 | 0.30 | - |
| *Aristolochia clematitis* L. | 0.03 | - | - |
| *Artemisia annua* L. | 0.02 | - | - |
| *Avena barbata* Pott ex Link | 0.42 | 0.08 | 0.14 |
| *Avena sterilis* L. | 0.03 | 0.13 | - |
| *Bituminaria bituminosa* (L.) C.H.Stirt. | 0.94 | 0.38 | 0.10 |
| *Blackstonia perfoliata* (L.) Huds. | 0.06 | - | 0.32 |
| *Bombycilaena erecta* (L.) Smoljan. | - | 0.10 | - |
| *Bothriochloa ischaemum* (L.) Keng | 0.12 | 0.04 | - |
| *Brachypodium phoenicoides* (L.) Roem. & Schult. | 1.66 | 4.46 | 4.93 |
| *Bromopsis erecta* (Huds.) Fourr. | 0.36 | 0.23 | 0.33 |
| *Bromus arvensis* L. | 0.01 | - | - |
| *Bromus hordeaceus*  L. | 0.14 | 0.01 | - |
| *Bryonia dioica* Jacq. | 0.40 | 0.20 | 0.14 |
| *Campanula erinus* L. | 0.38 | 0.16 | - |
| *Cardamine hirsuta L.* | 0.18 | - | - |
| *Carduus pycnocephalus* L. | 0.28 | 0.30 | 0.08 |
| *Carduus tenuiflorus* Curtis | 0.06 | 0.04 | - |
| *Carex halleriana* Asso | - | 0.03 | - |
| *Carex hirta* L. | - | 0.10 | 0.20 |
| *Carex otrubae* Podp. | - | 0.10 | 0.13 |
| *Carlina hispanica* Lam. | - | 1.07 | 0.29 |
| *Carlina vulgaris* L. | 0.01 | - | - |
| *Catapodium rigidum* (L.) C.E.Hubb. | 1.3 | 0.80 | 0.05 |
| *Celtis australis* L. | 0.01 | 0.02 | 0.02 |
| *Centaurea aspera* L. | 0.25 | 0.13 | - |
| *Centaurea paniculata* L. | 0.01 | 0.24 | - |
| *Centaurium erythraea* Rafn | - | - | 0.08 |
| *Centranthus calcitrapae* (L.) Dufr. | 0.15 | 0.49 | - |
| *Cerastium glomeratum* Thuill. | 0.42 | 0.46 | 0.02 |
| *Cerastium pumilum* Curtis | 0.23 | 0.10 | 0.01 |
| *Chondrilla juncea* L. | 0.98 | 0.40 | - |
| *Cirsium vulgare* (Savi) Ten. | 0.01 | - | 0.01 |
| *Clematis flammula* L. | - | 0.20 | - |
| *Clematis vitalba* L. | - | 0.26 | 0.06 |
| *Clinopodium acinos* (L.) Kuntze | 0.03 | - | - |
| *Clinopodium nepeta* (L.) Kuntze | 0.44 | 0.50 | 0.21 |
| *Clypeola jonthlaspi* L. | 0.17 | - | - |
| *Convolvulus arvensis* L. | - | 0.08 | 0.14 |
| *Convolvulus sepium* L. | 0.20 | 0.14 | - |
| *Cornus sanguinea* L. | 0.06 | 0.03 | 0.08 |
| *Crataegus monogyna* Jacq. | - | 0.39 | 0.70 |
| *Crepis foetida* L. | 0.15 | 0.20 | - |
| *Crepis pulchra* L. | 0.10 | - | - |
| *Crepis sancta* (L.) Bornm. | 0.34 | 0.30 | - |
| *Crepis vesicaria*subsp. taraxacifolia (Thuill.) Thell. ex Schinz & R.Keller | 0.34 | 0.22 | - |
| *Cynodon dactylon* (L.) Pers. | - | - | 0.40 |
| *Cynoglossum creticum* Mill. | 0.01 | - | - |
| *Dactylis glomerata* L. | 0.71 | 1.6 | 1 |
| *Daucus carota* L. | 0.10 | - | - |
| *Diplotaxis tenuifolia* (L.) DC. | 0.01 | - | - |
| *Dittrichia graveolens* (L.) Greuter | - | - | 0.06 |
| *Echium vulgare* L. | - | 0.24 | - |
| *Erigeron sp.* | 0.52 | 0.06 | 0.32 |
| *Erodium cicutarium* (L.) L'Hér. | 0.01 | 0.01 | 0.33 |
| *Eryngium campestre* L. | 0.16 | 0.93 | 0.68 |
| *Euphorbia cyparissias* L. | - | 0.20 | 0.46 |
| *Euphorbia exigua* L. | - | 0.16 | - |
| *Euphorbia falcata* L. | - | 0.01 | - |
| *Euphorbia segetalis* L. | 0.32 | 0.55 | - |
| *Euphorbia serrata* L. | 0.31 | - | - |
| *Falcaria vulgaris* Bernh. | - | 0.14 | - |
| *Festuca ovina* L. | - | 0.03 | - |
| *Festuca rubra L.* | - | 0.06 | 0.13 |
| *Filago germanica* L. | 0.12 | 0.38 | - |
| *Filago pyramidata* L. | 0.10 | 0.01 | - |
| *Galium aparine* L. | - | 0.01 | 0.01 |
| *Galium parisiense* L. | 0.69 | 0.76 | 0.01 |
| *Geranium dissectum* L. | - | 0.04 | 0.01 |
| *Geranium molle* L. | 0.28 | 0.10 | 0.01 |
| *Geranium robertianum* L. | 0.16 | 0.10 | - |
| *Geranium rotundifolium* L. | 0.24 | 0.20 | - |
| *Hedera helix* L. | - | - | 0.20 |
| *Helichrysum stoechas* (L.) Moench | 0.29 | 0.01 | - |
| *Helictochloa bromoides* (Gouan) Romero Zarco | 0.10 | 0.03 | - |
| *Helminthotheca echioides* (L.) Holub | - | 0.06 | 0.01 |
| *Himantoglossum hircinum* (L.) Spreng. | - | 0.05 | 0.02 |
| *Himantoglossum robertianum* (Loisel.) P.Delforge | - | 0.01 | - |
| *Hypericum perforatum* L. | 0.24 | 0.50 | 0.17 |
| *Hypericum sp.* | - | 0.03 | - |
| *Hypochaeris glabra* L. | - | 0.15 | - |
| *Hypochaeris radicata* L. | - | 0.06 | - |
| *Isatis tinctoria* L. | 0.06 | - | - |
| *Lactuca viminea* (L.) J.Presl & C.Presl | 0.02 | 0.10 | - |
| *Lamium amplexicaule* L. | 0.01 | - | - |
| *Lathyrus pratensis* L. | - | - | 0.06 |
| *Lathyrus sphaericus* Retz. | - | 0.08 | - |
| *Linaria arvensis* (L.) Desf. | - | 0.08 | - |
| *Linaria simplex* (Willd.) DC. | 0.12 | 0.07 | - |
| *Lolium rigidum* Gaudin | 0.20 | 0.01 | - |
| *Lotus corniculatus* L. | - | - | 0.13 |
| *Lysimachia arvensis* (L.) U.Manns & Anderb. | 0.08 | - | 0.08 |
| *Lysimachia linum-stellatum* L. | 0.50 | 0.88 | 0.20 |
| *Medicago lupulina* L. | 0.06 | - | 0.13 |
| *Medicago minima* (L.) L. | 0.66 | 0.55 | 0.17 |
| *Medicago monspeliaca* (L.) Trautv. | 0.03 | 0.03 | - |
| *Medicago rigidula* (L.) All. | - | 0.03 | - |
| *Melica ciliata* L. | 0.53 | 0.34 | - |
| *Melilotus sp.* | - | - | 0.01 |
| *Minuartia hybrida* (Vill.) Schischk. | 0.73 | 0.24 | - |
| *Myosotis arvensis* Hill | - | 0.10 | 0.01 |
| *Myosotis ramosissima* Rochel | 0.23 | 0.06 | - |
| *Odontites rubra* | 0.01 | - | - |
| *Ophrys passionis* Sennen | - | 0.01 | - |
| *Orchis sp.* | 0.10 | - | - |
| *Papaver rhoeas* L. | 0.10 | - | - |
| *Pardoglossum cheirifolium* (L.) Barbier & Mathez | - | 0.01 | - |
| *Phleum pratense* L. | 0.14 | - | 0.01 |
| *Phragmites australis* (Cav.) Trin. ex Steud. | 0.03 | - | 0.08 |
| *Picris hieracioides* L. | - | 0.10 | 0.20 |
| *Pilosella officinarum* Vaill. | 0.06 | 0.13 | 0.20 |
| *Plantago lanceolata* L. | 0.03 | 0.03 | - |
| *Plantago sempervirens* Crantz | 0.28 | 0.21 | - |
| *Poa annua* L. | - | 0.01 | 0.01 |
| *Poa bulbosa* L. | - | - | 0.09 |
| *Poa pratensis* L. | - | 0.10 | 0.08 |
| *Poa trivialis* L. | - | 0.01 | 0.13 |
| *Populus nigra* L. | 0.31 | 0.06 | 0.06 |
| *Populus sp.* | - | 0.06 | - |
| *Potentilla reptans* L. | - | 0.03 | 0.06 |
| *Poterium sanguisorba subsp. Sanguisorba* | 0.32 | 0.16 | 0.22 |
| *Prunus spinosa* L. | - | - | 0.10 |
| *Psilurus incurvus* (Gouan) Schinz & Thell. | - | 0.03 | - |
| *Quercus ilex* L. | 0.01 | - | - |
| *Quercus pubescens* Willd. | 0.10 | - | - |
| *Reichardia picroides* (L.) Roth | - | 0.38 | - |
| *Robinia pseudoacacia* L. | - | - | 0.01 |
| *Rosa agrestis* Savi | - | - | 0.20 |
| *Rosa canina* L. | - | - | 0.50 |
| *Rostraria cristata* (L.) Tzvelev | 0.84 | 0.03 | 0.01 |
| *Rubus ulmifolius* Schott | - | 0.06 | 0.26 |
| *Rumex crispus* L. | 0.03 | - | 0.09 |
| *Rumex obtusifolius* L. | - | - | 0.01 |
| *Sagina apetala* Ard. | 0.14 | 0.08 | 0.01 |
| *Sambucus ebulus* L. | - | - | 0.01 |
| *Saxifraga tridactylites* L. | 0.03 | - | - |
| *Schedonorus arundinaceus* (Schreb.) Dumort. | - | 0.01 | 0.40 |
| *Scolymus hispanicus* L. | - | 0.01 | - |
| *Senecio inaequidens* DC. | 0.28 | - | - |
| *Sherardia arvensis* L. | 0.63 | 0.44 | 0.08 |
| *Silene latifolia subsp. alba* (Mill.) Greuter & Burdet | - | 0.04 | - |
| *Silene nocturna* L. | 0.21 | 0.01 | - |
| *Silene vulgaris* (Moench) Garcke | - | 0.06 | - |
| *Sonchus asper* (L.) Hill | 0.01 | 0.02 | - |
| *Sonchus oleraceus* L. | - | 0.02 | - |
| *Symphyotrichum × salignum* (Willd.) G.L.Nesom | 0.07 | 0.30 | 0.14 |
| *Symphyotrichum subulatum var. squamatum* (Spreng.) S.D.Sundb. | 0.03 | - | 0.13 |
| *Taraxacum sp.* | 0.01 | 0.01 | 0.01 |
| *Teucrium botrys* L. | - | 0.10 | - |
| *Torilis arvensis* (Huds.) Link | 0.10 | - | 0.01 |
| *Torilis nodosa* (L.) Gaertn. | 0.04 | 0.68 | - |
| *Torilis sp.* | 0.03 | - | 0.08 |
| *Tragopogon porrifolius* L. | 0.12 | 0.01 | - |
| *Trifolium campestre* Schreb. | 0.01 | 0.04 | 0.24 |
| *Trigonella esculenta* Willd. | - | 0.06 | - |
| *Trinia glauca* (L.) Dumort. | - | 0.30 | - |
| *Urospermum picroides* (L.) Scop. ex F.W.Schmidt | 0.03 | 0.02 | - |
| *Valantia muralis* L. | 0.06 | 0.20 | - |
| *Verbascum sinuatum* L. | 0.01 | 0.11 | - |
| *Verbascum thapsus* L. | - | - | 0.06 |
| *Verbena officinalis* L. | - | - | 0.02 |
| *Veronica arvensis* L. | 0.89 | 0.17 | 0.13 |
| *Veronica polita* Fr. | 0.03 | - | - |
| *Viburnum lantana* L. | - | 0.03 | - |
| *Viburnum tinus* L. | - | - | 0.06 |
| *Vicia hybrida* L. | - | 0.10 | 0.06 |
| *Vicia lathyroides* L. | - | 0.11 | 0.02 |
| *Vicia parviflora* L. | - | 0.03 | 0.48 |
| *Vicia sativa* L. | 0.06 | 0.12 | 0.48 |
| *Vulpia ciliata* Dumort. | 0.54 | 0.54 | - |
| *Vulpia myuros* (L.) C.C.Gmel. | 0.24 | 0.33 | 0.01 |
| *Vulpia sp.* | 0.06 | - | - |
| *Vulpia unilateralis* (L.) Stace | 0.57 | 0.65 | 0.01 |

Table S1. Taxa recorded in the dyke of Donzère-Mondragon in the Lower Rhone valley, Southeastern France. Values correspond to the mean frequency of each vegetation taxa for each treatment over 3 years (2014-2016). GG = grassland grazed by cattle, MG = mown grassland, N = no managed site.