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WEEDS, CONDITIONAL WEEDS AND QUALITY PLANTS IN LAWNS OF THE URBAN PART OF BELGRADE

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Numerous plant species recorded in the study area are not suitable species for the particular lawn types. For this reason, all the identified species were grouped in three categories: weeds, conditional weeds and usable plants for the study lawn types. Only five plants out of 314 plants identified in the study area satisfy the functions of high-quality ornamental lawns, all the remaining plant species are classified as weeds in this lawn type. In the lawns along the mayor roads, 164 plant species are quality plants, 43 plants are conditional weeds and 107 plants are weeds. Depending on the intensity of maintenance and the functions of individual lawn types, the number of suitable good-quality plants, conditional weeds and weeds changes proportionally.

Key words: weeds, conditional weeds, quality plants, lawn, Belgrade

INTRODUCTION

During the period 1994 - 2002 we analysed the lawn spaces in the urban part of Belgrade. The above lawns sustain 314 plant species (STAVRETOVIĆ, 2002). However, all of the identified species are not appropriate, i.e. they do not satisfy the functions demanded for the particular types of lawns, so they should

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be characterised as weed species. Weeds of the lawns in urban areas and their control have frequently been investigated by the authors throughout the world (JONSON and MURPHY, 1989; KOJIĆ i VRBNIČANIN, 1998; FRANKTON and MULLING,1970; etc.).

Weeds of the lawns in urban areas (urban environments) are the plants that were not used for lawn establishment (they were not a part of the seed mixture), even if they are cultivated plants, i.e. desirable in other types of grasslands. In a wider sense, weeds in these lawns are the plants that by their appearance, colour, leaf texture, density, branching of the root system, colour, or growth habit, deteriorate the desirable appearance and the defined functions of the targeted grassland. The above definition of lawn weeds in urban environments relies on the definition of weed reported by KOJIĆ and ŠINŽAR (1985).

Because of impossible tending, expensive lawn maintenance, often impossible control of the lawn structure, some plant species must be considered as conditional weeds. From this aspect, it can be concluded that conditional weeds are the plants which, by their characteristics, slightly diminish the lawn quality, i.e. reduce the quality of individual lawn qualities, but to a slight degree. Such characteristics are, for example, the shades of green colour, slight differences in leaf texture, less branched root system, creeping habit instead of cespitose, somewhat greater or lower density of plants and the like.

Taking into account the above attitudes, it can be concluded that quality plants for individual types of lawns are those plant species which maintain the function of the lawn type to the highest degree or to the optimal level.

Highly ornamental lawns are grass areas requiring the highest level of trending and maintenance. The high degree of tending and maintenance of such lawns is necessary in order to attain and maintain its functionality, first of all its high esthetical value. Of the identified 314 plant species in the study area, only five species are not weeds, i.e. conditional weeds in the case of highly-ornamental lawns. As not only the weeds but also the conditional weeds should not be present in this type of lawn, it is frequently necessary to apply protection measures against weed species and also to stimulate the growth of quality grasses by the adequate measures of tending and maintenance (*Poa pratensis, Lolium perenne, Festuca rubra, Agrostis vulgaris*).

Ornamental lawns are tended areas, but as opposed to the previous category, in these lawns the presence of species defined as conditional weeds is allowed (2001). The height of mowing in these lawns is somewhat higher than in high-ornamental lawns and the intensity of tending is somewhat lower. Ornamental lawns are the areas in which the priority function is ornamental, but it is not the only and the basic function. Of the present plants in the study area, six species are evaluated as quality plants for this type of lawn, eight plants are conditional weeds and other species are weeds.

Park lawns are usually spatial and they represent the basic foundation of the other park elements. The maintenance of park lawns should not be extensive, because of their significance, i.e. role in the urban nucleus. All the above, as well

as somewhat lower requirements of esthetical values in this lawn type, allows the presence of a greater number of sufficiently good quality plants, i.e. conditional weeds, and even weeds.

Table 1 shows that there are 11 plant species which are not classified as weeds in park lawns. The group of conditional weeds consists of a greater number of plant species (41). The greatest number of conditional weeds are the plants with creeping growth and relatively narrow leaves (less than 10 mm). Some species of ground cover (Hedera helix, Vinca minor and Vinca major) cannot be considered as conditional weeds in lawns, because they cannot tolerate the measures undertaken in this type of lawns, which also refers to ornamental flowering plants.

The intensity of tending and maintenance in the lawns of residential zones is somewhat lower, but not significantly lower than in park lawns. One of the features of the plants suitable for this type of lawns is to be drought resistant, because in residential blocks, lawn watering is difficult to organise and implement. For this reason, some plant species, grasses first of all, are classified as conditional weeds in this lawn type, and they amount to 47. There are eleven species that are evaluated as quality plants for this purpose.

Table 1. - Survey of weed plants (-), conditional weeds (~), quality plants (+) for individual types of lawns and useful ground covers (P): HOL-highly ornamental lawns; OL-ornamental lawns; Pl-park lawns; RL-lawns in residential zones; Sk-circular roads; Sr-central rows; Rl-roadside lawns; Hl-lawns along the highways.

Families/species	Types of lawns							
	HOL	OL	Pl	RL	Cr	Cer	Rl	Hl
ACERACEAE								
Acer campestare L.	-	-	-	-	-	-	-	-
Acer negundo L.	-	-	-	-	-	-	-	-
Acer platanoides L.	-	-	-	-	-	-	-	-
Acer pseudoplatanus L.	-	-	-	-	-	-	-	-
Acer saccharinum L.	-	-	-	-	-	-	-	-
ALLIACEAE								
Allium sativum L.	-	-	-	-	-	-	-	~
Allium vineale L.	-	-	~	~	-	~	~	~
AMARANTHACEAE								
Amaranthus retroflexus L.	-	-	-	-	-	-	-	-
APIACEAE								
Anthriscus caucalis M. B.	-	-	-	-	-	-	-	-
Bifora radians M. B.	-	-	-	-	-	-	-	-
Daucus carota L.	-	-	-	-	-	-	-	-
Orlaya grandiflora (L.) Huds.	-	-	-	-	-	-	-	-
Pastinaca sativa L.	-	-	-	-	-	-	-	-
Pimpinella major (L.) Huds.	-	-	-	-	-	-	-	-
Pimpinella saxifraga (L.) Huds.	-	-	-	-	-	-	-	-
Torilis anthriscus (L.)Gmel.	-	-	-	-	-	-	-	-
Torilis arvensis (Huds.) Link.	-	-	-	-	-	-	-	-

APOCYNACEAE								
Vinca major L.	-	-	-	-	*P*-	+	+	+
Vinca minor L.	-	-	-	-	*P*-	+	+	+
ARALIACEAE								
Hedera helix L.	-	-	-	-	*P*-	+	+	+
ASTERACEAE								
Achillea millefolium L.	-	~	~	~	*P*~	+	+	+
Ambrosia artemisifolia	-	-	-	-	-	-	-	-
Arctium lappa L.	-	-	-	-	-	-	-	-
Artemisia absinthium L.	-	-	-	-	-	-	-	-
Artemisia vulgaris L.	-	-	-	-	-	-	-	-
Aster lanceolatus Willd.	-	-	-	-	-	+	+	+
Aster novi belgii L.	-	-	-	-	-	+	+	+
Bellis perennis L.	-	-	*P*~	*P*~	-	~	*P*~	+
Bidens tripartitus L.	-	-	-	-	-	-	-	-
Calendula officinalis L.	-	-	-	-	*P*-	~	~	+
Carduus acanthoides L.	-	-	-	-	-	-	-	-
Centaurea jacea L.	-	-	-	-	-	-	-	-
Chondrilla juncea L.	-	-	-	-	-	-	-	-
Cichorium intybus L.	-	-	-	-	-	-	~	+
Cirsium acaule (L.)Scop.	-	-	-	-	-	-	-	~
Cirsium arvense L. Scop.	-	-	-	-	-	-	-	~
Cirsium lanceolatum L. Scop.	-	-	-	-	-	-	-	~
Crepis biennis L.	-	-	-	-	-	-	-	-
Crepis foetida L.	-	-	-	-	-	-	-	-
Crepis f. ssp.rhoeadifolia (Bieb.) Čelak	-	-	-	-	-	-	-	-
Crepis pulchra L.	-	-	-	-	-	-	-	-
Erigeron canadensis L.	-	-	-	-	-	-	-	-
Galinsoga ciliata (Raf.) Blake.	-	-	-	-	-	-	-	-
Hieracium bauhini Bess.	-	-	-	-	-	-	-	-
Hieracium pilosella L.	-	-	-	-	-	-	-	-
Hypochoeris radicata L.	-	-	-	-	-	-	-	~
Inula britannica L.	-	-	-	-	-	-	-	-
Lactuca serriola L.	-	-	-	-	-	-	-	-
Lapsana communis L.	-	-	-	-	-	-	-	-
Leontodon autumnalis L.	-	-	-	-	-	-	-	-
Leontodon crispus Vill.	-	-	-	-	-	-	-	-
Leontodon hispidus L.	-	-	-	-	-	-	-	-
Matricaria chamomilla L.	-	-	*P*-	*P*-	*P*-	+	~	+
Matricaria inodora L.	-	-	*P*-	*P*-	*P*-	+	~	+
Onopordum acanthium L.	-	-	-	-	-	-	-	-
Senecio vernalis W. et K.	-	-	-	-	-	-	-	-
Senecio vulgaris L.	-	-	-	-	-	-	-	-
Sonchus arvensis L.	-	-	-	-	-	-	-	-
Sonchus asper (L.) Hill.	-	-	-	-	-	-	-	-
Sonchus asper subsp. asper (L.) Hill.	-	-	-	-	-	-	-	-
Sonchus oleraceus L.	-	-	-	-	-	-	-	-
Stenactis annua (L.) Nees.	-	-	-	-	-	-	-	-
Taraxacum officinale Weber	-	-	-	-	-	-	~	~
Tragopogon dubius Scop.	-	-	-	-	-	-	-	-
Tragopogon pratensis L.	-	-	-	-	-	-	-	-
Tussilago farfara L.	-	-	-	-	-	-	-	+

BERBERIDACEAE								
Mahonia aquifolium (Purch) Nutt.	-	-	-	-	-	-	-	-
Berberis thunbergii DC.								
BORAGINACEAE								
Anchusa officinalis L.	-	-	-	-	-	-	-	-
Myosotis arvensis (L.) Hill.	-	-	-	-	-	-	-	+
Symphytum officinale L.	-	-	-	-	-	-	-	-
BRASSICACEAE								
Alyssum alyssoides (L.) L.	-	-	-	-	-	-	-	-
Alyssum desertorum Stapf.	-	-	-	-	-	-	-	-
Arabidopsis thaliana (L.) Heynh.	-	-	-	-	-	-	-	-
Calepina irregularis (Asso) Thell.	-	-	-	-	-	-	-	-
Capsella bursa pastoris (L.) Medik.	-	-	-	-	-	-	-	-
Diplotaxis muralis (L.) DC.	-	-	-	-	-	-	-	-
Diplotaxis tenuifolia (Jusl.) DC.	-	-	-	-	-	-	-	-
Lepidium draba L.	-	-	-	-	-	-	-	~
Roripa austriaca (Crantz.) Bess.	-	-	-	-	-	-	-	~
Roripa amphilia (L.) Bess.	-	-	-	-	-	-	-	~
Roripa silvestris (L.) Bess.	-	-	-	-	-	-	-	~
Sinapis arvensis L.	-	-	-	-	-	-	-	-
Sisymbrium officinale (L.) Scop.	-	-	-	-	-	-	-	-
Sisymbrium orientale L.	-	-	-	-	-	-	-	-
BUDDLEJACEAE								
Buddleja davidii Franchet.	-	-	-	-	-	-	-	-
CAESALPINIACEAE								
Cercis siliquastrum L.	-	-	-	-	-	-	-	-
CAMPALUNACEAE								
Campanula glomerata L.	-	-	-	-	-	-	-	+
CAPRIFOLIACEAE								
Symphoricarpus albus L.	-	-	-	-	-	-	-	-
Symphoricarpus orbiculatus Mnch	-	-	-	-	-	-	-	-
CARYOPHYLLACEAE								
Arenaria serpyllifolia L.	-	-	-	-	~	~	~	~
Cerastium brachypetalum Pers.	-	-	-	-	-	~	~	~
Saponaria officinalis L.	-	-	-	-	-	-	-	+
Silene vulgaris (Moench) Gracke	-	-	-	-	-	-	-	+
Stellaria holostea L.	-	-	-	-	-	-	-	~
Stellaria media (L.) Vill.	-	-	-	-	-	-	-	~
CHENOPODIACEAE								
Atriplex patula L.	-	-	-	-	-	-	-	-
Atriplex tatarica L.	-	-	-	-	-	-	-	-
Chenopodium album L.	-	-	-	-	-	-	-	-
Chenopodium ficifolium SM.	-	-	-	-	-	-	-	-
Chenopodium glaucum L.	-	-	-	-	-	-	-	-
Chenopodium murale L.	-	-	-	-	-	-	-	-
Chenopodium opulifolium Schrader	-	-	-	-	-	-	-	-
Chenopodium plyspermum L.	-	-	-	-	-	-	-	-
Chenopodium rubrum L.	-	-	-	-	-	-	-	-

COMMELINACEAE								
Tradeskancia virginiana L.	-	-	-	-	*P*-	-	-	+
CONVOLVULACEAE								
Calystegia sepium (L.) R. Br.	-	-	-	-	-	-	-	~
Convolvulus arvensis L.	-	-	-	-	-	-	-	~
CORNACEAE								
Cornus mas L.	-	-	-	-	-	-	-	-
CORYLACEAE								
Carpinus betulus L.	-	-	-	-	-	-	-	-
CRASSULACEAE								
Sedum lineare Thunberg.	-	-	*P*-	*P*-	*P*~	~	*P*~	+
CUCURBITACEAE								
Bryonia alba L.	-	-	-	-	-	-	-	-
CUSCUTACEAE								
Cuscuta monogyna Valh.	-	-	-	-	-	-	-	-
CYPERACEAE								
Carex hirta L.	-	-	~	~	~	~	~	+
Carex divulsa Good.	-	-	~	~	~	~	~	+
Carex nitida Host.	-	-	~	~	~	~	~	+
Carex vulpina L.	-	-	~	~	~	~	~	+
DIPSACACEAE								
Knautia arvensis (L.) Goult	-	-	-	-	-	-	-	+
Scabiosa ochroleuca L.	-	-	-	-	-	-	-	-
EQUISETACEAE								
Equisetum arvense L.	-	-	-	-	-	-	-	-
EUPHORBIACEAE								
Euphorbia cyparissias L.	-	-	-	-	-	-	-	~
Euphorbia helioscopia L.	-	-	-	-	-	-	-	~
Euphorbia virgata L.	-	-	-	-	-	-	-	~
Euphorbia palustris L.	-	-	-	-	-	-	-	~
FABACEAE								
Astragalus cicer L.	-	-	-	-	-	~	~	~
Astragalus glycyphyllos L.	-	-	-	-	-	~	~	~
Astragalus onobrychis L.	-	-	-	-	-	~	~	~
Coronilla varia L.	-	-	-	-	-	~	~	~
Lathyrus aphaca L.	-	-	-	-	-	~	~	~
Lathyrus pratensis L.	-	-	-	-	-	~	~	~
Lathyrus tuberosus L.	-	-	-	-	-	~	~	~
Lotus corniculatus L.	-	-	~	~	~	+	+	+
Medicago arabica (L.) Huds.	-	-	~	~	~	+	+	+
Medicago falcata L.	-	-	~	~	~	+	+	+
Medicago lupulina L.	-	-	~	~	~	+	+	+
Medicago minima L.	-	-	~	~	~	+	+	+
Medicago sativa L.	-	-	-	-	~	+	+	+
Melilotus officinalis (L.) Pallas	-	-	-	-	-	-	~	~

Onobrychis sativa Lam.	-	-	-	-	-	-	~	~
Robinia pseudoacacia L.	-	-	-	-	-	-	-	-
Sophora japonica L.	-	-	-	-	-	-	-	-
Trifolium campestre Schreb.	-	-	~	~	~	+	+	+
Trifolium hybridum L.	-	-	-	-	-	+	+	+
Trifolium incarnatum L.	-	-	-	-	-	+	+	+
Trifolium patens Schreb.	-	-	~	~	~	+	+	+
Trifolium pratense L.	-	-	-	-	-	+	+	+
Trifolium repens L.	-	-	~	~	~	+	+	+
Vicia cracca L.	-	-	-	-	-	~	~	~
Vicia lathyroides	-	-	-	-	-	~	~	~
Vicia saepium L.	-	-	-	-	-	~	~	~
Vicia sativa L.	-	-	-	-	-	~	~	~
FUMARIACEAE								
Fumaria officinalis L.	-	-	-	-	-	-	-	+
GERANIACEAE								
Erodim ciconium (L.) L Herit	-	-	~	~	~	+	+	+
Erodium cicutarium (L.) L Herit	-	-	~	~	~	+	+	+
Geranium dissectum L.	-	-	-	~	-	+	+	+
Geranium molle L.	-	-	~	~	~	+	+	+
Geranium pyrenaicum Burm. Fil.	-	-	-	~	-	+	+	+
Geranium pusillum L.	-	-	~	~	~	+	+	+
Geranium robertianum L.	-	-	-	~	-	+	+	+
HYPPOCASTANACEAE								
Aesculus hypocastanum L.	-	-	-	-	-	-	-	-
HYPERICACEAE								
Hypericum perforatum L.	-	-	-	-	-	-	-	+
JUGLANDACEAE								
Juglans regia L.	-	-	-	-	-	-	-	-
JUNCACEAE								
Juncus articulatus L.	-	-	-	-	-	-	-	~
LAMIACEAE								
Ajuga chamaepitys (L.) Schreb.	-	-	-	-	-	-	~	+
Ajuga genevensis L.	-	-	-	-	-	-	~	+
Ajuga reptans L.	-	-	P~	P~	P~	-	~	+
Ballota nigra L.	-	-	-	-	-	-	-	+
Glechoma hederacea L.	-	-	P~	P~	-	-	~	+
Lamium amplexicaule L.	-	-	-	-	-	-	-	+
Lamium maculatum L.	-	-	-	-	-	-	-	+
Lamium purpureum L.	-	-	-	-	-	-	-	+
Mentha longifolia (L.) Huds.	-	-	P~	P~	P-	~	P-	+
Prunella laciniata L.	-	-	~	~	-	-	-	+
Prunella vulgaris L.	-	-	~	~	-	-	-	+
Salvia pratensis L.	-	-	-	-	-	-	-	+
Salvia verticillata L.	-	-	-	-	-	-	-	+
Thymus marschallianus Willd.	-	-	~	~	P~	+	+	+
Thymus serpyllum L.	-	-	~	~	P~	+	+	+

MALVACEAE								
Althaea officinalis L.	-	-	-	-	-	-	-	+
Althaea rosea (L.) Cav.	-	-	-	-	-	-	-	+
Malva neglecta Willd.	-	-	-	-	-	~	-	+
Malva sylvestris L.	-	-	-	-	-	~	-	+
OLEACEAE								
Fraxinus excelsior L.	-	-	-	-	-	-	-	-
Fraxinus ornus L.	-	-	-	-	-	-	-	-
Syringa vulgaris L.	-	-	-	-	-	-	-	-
OXALIDACEAE								
Oxalis acetosella L.	-	-	~	~	~	~	~	+
PAPAVERACEAE								
Chelidonium majus L.	-	-	-	-	-	-	-	+
Papaver rhoeas L.	-	-	-	-	-	-	-	+
PLANTAGINACEAE								-
Plantago lanceolata L.	-	-	-	-	~	+	+	+
Plantago major L.	-	-	-	-	-	-	-	-
Plantago media L.	-	-	-	-	-	-	-	-
POACEAE								
Agrostis alba L.	+	+	+	+	+	+	+	+
Agrostis vulgaris L.	+	+	+	+	+	+	+	+
Aegilops cylindrica Host.	-	-	-	-	-	-	-	+
Agropyrum repens (L.)Beauv.	-	-	-	-	-	-	-	+
Alopecurus pratensis L.	-	-	-	-	-	-	-	+
Arrhenatherum elatius (L.) Beauv.	-	-	-	-	-	-	-	+
Avena fatua L.	-	-	-	-	-	-	-	+
Bachypodium sllvatica (Huds.) Beauv.	-	-	-	~	-	-	-	+
Brachypodium pinnatum (L) P. B.	-	-	-	~	-	-	-	+
Bromus inermis Leysser	-	-	-	-	-	-	-	+
Bromus japonicus Thunb.	-	-	-	-	-	-	-	+
Bromus mollis L.	-	-	-	-	-	-	-	+
Bromus squarrosus L.	-	-	-	-	-	-	-	+
Bromus sterilis L.	-	-	-	-	-	-	-	+
Bromus tectorum L.	-	-	-	-	-	-	-	+
Cynodon dactylon (L.) Pers.	-	-	-	~	~	~	~	+
Cynosurus cristatus L.	-	~	+	+	+	+	+	+
Dactylis glomerata L.	-	-	-	~	-	-	-	+
Digitaria ciliaris (Retz.) Koeler	-	-	-	-	-	-	-	+
Digitaria sanguinalis (L.) Scop.	-	-	-	-	-	-	-	+
Eleusine indica (L.) Gaertn.	-	-	-	-	-	~	~	+
Festuca arundinacea Schreb.	-	+	+	+	+	+	+	+
Festuca heterophylla Lam.	-	~	~	~	~	~	~	+
Festuca ovina L.	-	~	+	+	+	+	+	+
Festuca pratensis Huds.	-	~	+	+	+	+	+	+
Festuca rubra L.	+	+	+	+	+	+	+	+
Holcus lanatus L.	-	-	-	-	-	-	-	+
Hordeum murinum L.	-	-	-	-	-	-	-	+
Hordeum m. ssp. leporinum (link) Arnang.	-	-	-	-	-	-	-	+
Koeleria gracilis Pers.	-	-	-	-	-	-	-	+
Lolium multiflorum Lam.	-	-	-	-	-	-	-	+
Lolium perenne L.	+	+	+	+	+	+	+	+

Panicum crus galli (L.) Beauv.	-	-	-	-	-	-	-	+
Poa annua L.	-	~	~	~	~	~	~	+
Poa bulbosa L.	-	-	~	~	~	~	~	+
Poa bulbosa spp. vivipara L.	-	-	~	~	~	~	~	+
Poa nemoralis L.	-	~	+	+	~	~	~	~
Poa pratensis L.	+	+	+	+	+	+	+	+
Poa trivialis L.	-	~	+	+	~	+	+	+
Sclerochloa dura (L.) Beauv.	-	-	-	~	~	~	~	+
Setaria glauca (L.) Beauv.	-	-	-	-	-	-	-	+
Setaria viridis (L.) Beauv.	-	-	-	-	-	-	-	+
Sorghum halepense (L.) Pers.	-	-	-	-	-	-	-	+
Triticum turgidum L.	-	-	-	-	-	-	-	+
Vulpia ciliata Dumort.	-	-	-	-	-	-	-	+
Vulpia myuros (L.) Gmel.	-	-	-	-	-	-	-	+
POLYGONACEAE								
Bilderdykia convolvulus (L.) Dumort	-	-	-	-	-	-	-	-
Polygonum aviculare L.	-	-	-	-	-	~	~	~
Polygonum convolvulus L.	-	-	-	-	-	-	-	-
Polygonum hydropiper L.	-	-	-	-	-	-	-	-
Polygonum persicaria L.	-	-	-	-	-	-	-	-
Reynoutria japonica Houtt.	-	-	-	-	-	-	-	~
Rumex acetosella L.	-	-	-	-	-	-	-	~
Rumex crispus L.	-	-	-	-	-	-	-	~
Rumex obtusifolius L.	-	-	-	-	-	-	-	~
Rumex pulcher L.	-	-	-	-	-	-	-	~
PORTULACEAE								
Portulaca oleracea L.	-	-	-	-	~	~	~	~
PRIMULACEAE								
Anagallis arvensis L.	-	-	-	-	-	-	~	+
Lysimachia nummularia L.	-	-	*P*~	*P*~	~	-	~	*P*+
RANUNCULACEAE								
Clematis vitalba L.	-	-	-	-	-	-	-	-
Consolida regalis L.	-	-	-	-	-	-	-	+
Ranunculus acris L.	-	-	-	-	~	-	~	+
Ranunculus arvensis L.	-	-	-	-	~	-	~	+
Ranunculus polyanthemos L.	-	-	-	-	-	-	~	+
Ranunculus repens L.	-	-	~	~	~	~	~	+
Ranunculus sardous Cr.	-	-	-	-	-	-	~	+
RESEDACEAE								
Reseda lutea L.	-	-	-	-	-	-	-	-
ROSACEAE								
Alchemilla vulgaris L.	-	-	-	-	-	-	-	-
Cotoneaster integerrimus Medic.	-	-	-	-	-	-	-	-
Cotoneaster zabelii Schneid.	-	-	-	-	-	-	-	-
Crataegus monogyna Jacq.	-	-	-	-	-	-	-	-
Duchesnea indica (Andr.) Focke	-	-	~	~	~	-	~	+
Fragaria vesca L.	-	-	-	-	-	-	-	+
Geum urbanum L.	-	-	-	-	-	-	-	+
Malus prunifolia (Willd.) Borkh.	-	-	-	-	-	-	-	-
Malus silvestris L.	-	-	-	-	-	-	-	-

Potentilla recta L.	-	-	-	-	-	-	-	+
Potentilla argentea L.	-	-	-	-	-	-	-	+
Potentilla reptans L.	-	-	~	~	~	-	-	+
Prunus avium L.	-	-	-	-	-	-	-	-
Prunus cerasus L.	-	-	-	-	-	-	-	-
Rosa canina L.	-	-	-	-	-	-	-	-
Rubus caesius L.	-	-	-	-	-	-	-	-
Sanguisorba minor Scop.	-	-	-	-	-	-	-	+
RUBIACEAE								
Galium aparine L.	-	-	-	-	-	-	-	+
Galium mollugo L.	-	-	-	-	-	-	-	+
Galium verum L.	-	-	-	-	-	-	-	+
Sherardia arvensis L.	-	-	-	-	-	-	-	~
SALICACEAE								
Populus alba L.	-	-	-	-	-	-	-	-
Populus nigra L.	-	-	-	-	-	-	-	-
Salix alba L.	-	-	-	-	-	-	-	-
SAMBUCACEAE								
Sambucus nigra L.	-	-	-	-	-	-	-	-
SAPINDACEAE								
Koelreuteria paniculata Laxm.	-	-	-	-	-	-	-	-
SCROPHULARIACEAE								
Kickxia elatine (L.) Dumort.	-	-	-	-	-	-	-	-
Linaria genistifolia (L.) Mill.	-	-	-	-	-	-	-	-
Linaria vulgaris Mill.	-	-	-	-	-	-	-	-
Verbascum phlomoides L.	-	-	-	-	-	-	-	+
Veronica agrestis L.	-	-	-	-	-	-	-	+
Veronica arvensis L.	-	-	-	-	-	-	-	+
Veronica chamaedrys L.	-	-	-	-	-	-	-	+
Veronica opaca Fr.	-	-	~	~	-	-	-	+
Veronica peregrina L.	-	-	~	~	-	-	-	+
Veronica persica L.	-	-	~	~	-	-	-	+
Veronica polita Fries	-	-	~	~	-	-	-	+
Veronica serpyllifolia L.	-	-	-	-	-	-	-	+
Veronica verna L.	-	-	-	-	-	-	-	+
SIMARUBIACEAE								
Ailanthus altissima (Mill.) Swingle	-	-	-	-	-	-	-	-
SOLANACEAE								
Solanum dulcamara L.	-	-	-	-	-	-	-	-
Solanum nigrum L.	-	-	-	-	-	-	-	-
TILIACEAE								
Tillia cordata Mill.	-	-	-	-	-	-	-	-
Tillia grandifolia Ehrh.	-	-	-	-	-	-	-	-
Tillia platyphyllos Scop.	-	-	-	-	-	-	-	-
Tilia tomentosa Mnch.	-	-	-	-	-	-	-	-

ULMACEAE								
Celtis occidentalis L.	-	-	-	-	-	-	-	-
Ulmus effusa Willd.	-	-	-	-	-	-	-	-
URTICACEAE								
Parietaria officinalis L.	-	-	-	-	-	-	-	-
Urtica dioica L.	-	-	-	-	-	-	-	-
VERBENACEAE								
Verbena officinalis L.	-	-	-	-	-	-	-	-
VIOLACEAE								
Viola canina L.	-	-	~	~	*P*-	~	~	+
Viola odorata L.	-	-	~	~	*P*-	~	~	+
Vila tricolor L.	-	-	~	~	*P*-	~	~	+

The lawns along the roads are a very important element of roads, but also an essential element in the system of green spaces. Grassland areas of circular roads belong to the category of intensively maintained lawns. The areas between carriageways are untrodden lawns exposed to severe pollution. A very pleasant effect in these areas is achieved by the change of plant material in them. Plant material can be of the ruderal character, because of the ability of the plants in this group to tolerate the conditions prevailing on roadsides (e.g. *Malva sylvestris*).

Roadside grasslands are somewhat simpler for tending and maintenance because of the larger area they occupy compared to the lawns between carriageways. In the lawns along the major roads, the priority function is erosion control, so it is the reason for the presence of a great number of useful species. Certainly, a great number of plants which have been evaluated as useful species in the study localities, would be classified as weed s in the landscape near the ploughland (*Bromus sp., Setaria sp., Hordeum sp.*, etc.). The greatest number of all plant species present in a great number of lawn types are classified as weeds. Depending on the intensity of maintenance and the functions of individual lawn types, the number of suitable good-quality plants, conditional weeds and weeds changes proportionally.

Of all the recorded plant species in lawns, the greatest attention should be drawn to the species whose presence and characteristics are functional in several types of lawns. Along with them, attention should also be focused to ground covers (STAVRETOVIĆ, 2000). Future investigations should determine the practical value of the use of additional plant species in sowing mixtures for lawns and evaluate more precisely the methods of maintenance of the already known and proposed ground covers.

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KOROVI, USLOVNI KOROVI I KORISNE BILJKE TRAVNJAKA URBANOG PODRUČJA BEOGRADA

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I z v o d

Veliki broj biljnih vrsta koje su zapažene na istraživanom području ne predstavljaju pogodne vrste za pojedine tipove travnjaka, zbog čega su sve konstatovane vrste grupisane u tri kategorije: korovi, uslovni korovi i korisne biljke za istraživane tipove travnjaka. Samo pet od 314 konstatovanih biljaka na istraživanom području zadovoljavaju funkcije visoko-dekorativnih travnjaka, ostale biljne vrste u ovom tipu travnjaka predstavljaju korov. Kod travnjaka većih saobraćajnica 164 biljne vrste predstavljaju kvalitetne biljke, njih 43 su uslovni korovi i 107 čine korovi. Srazmerno intenzitetu nege i funkcijama pojedinih tipova travnjaka broj odgovarajućih, kvalitetnih biljaka, uslovnih korova i korova se menja.

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