

MAPPING OF CONTENTS IN "ZBORNİK BIOTEHNIŠKE FAKULTETE UNIVERZE V LJUBLJANI. KMETIJSTVO. ZOOTEHNIKA" (RESEARCH REPORTS BIOTECHNICAL FACULTY UNIVERSITY OF LJUBLJANA. AGRICULTURE. ZOOTECHNY): AN ANALYSIS OF NARROWER AND BROADER SUBJECT AREAS

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ABSTRACT

A bibliometric analysis of volumes 74 (1999) and 76 (2000) (altogether 48 articles) of Zbornik Biotehniške fakultete Univerze v Ljubljani. Kmetijstvo. Zootehnika (Research Reports Biotechnical Faculty University of Ljubljana. Agriculture. Zootechny) was based on the Agrovoc descriptors (de) assigned by an indexer (ENI), computer assigned DE (ENC) and category codes (CC) assigned as indexing terms to the respective articles in the Agris database. Two subject indexes based on ENI and ENC coupled together, and on CC were constructed as a material for further analysis. The scatter of indexing terms was then compared with some scientometric laws such as those by Bradford, Zipf, and others. Among 357 different DE (ENI and ENC coupled together in one file) some 80 % were assigned only once or twice. 210 DE occurred only once. Organism DE maintained the highest frequency (bacteria: 16 times, followed by useful animals: 13 times). Some 20 % of all different DE were assigned to half of the articles. Among ENI 154 of 221 terms occurred only once. Aspect DE possessed the highest frequency among ENI (chemical composition: 11 times, followed by proximate composition: 10 times). Some indexing characteristics were further highlighted such as the use of synonyms and related terms. The results of macroindexing with CC were interpreted with some limitations as there are in classification schemes no sufficient macrocategories referring to microbiology or biotechnology of microorganisms. All of the records of the Slovenian Agris output were processed by one indexer thus maintaining a relatively high indexing consistency what facilitates better information retrieval.

Key words: animal sciences / zootechny / journals / indexing / indexes / thesauri / identification / data collection / data analysis / data processing / information science / information services / documentation / databases

KARTIRANJE VSEBINE ZBORNİKA BIOTEHNIŠKE FAKULTETE UNIVERZE V LJUBLJANI. KMETIJSTVO. ZOOTEHNIKA: ANALIZA OŽJIH IN ŠIRŠIH PREDMETNIH PODROČIJ

IZVLEČEK

Bibliometrično analizo dveh letnikov (74, 1999 in 76, 2000) (skupaj 48 člankov) Zbornika Biotehniške fakultete Univerze v Ljubljani. Kmetijstvo. Zootehnika (Research Reports Biotechnical Faculty University of Ljubljana. Agriculture. Zootechny) smo zasnovali s pomočjo Agrovoc deskriptorjev (de) iz podatkovne zbirke Agris, ki jih je določil specialist (ENI),

avtomatskih širših deskriptorjev (ENC) in predmetnih makrokategorij (CC). ENI in ENC združene skupaj ter CC smo uredili v dve kazali po ključnih pojmi. Kazali sta rabili kot material za nadaljnjo analizo. Razkropljenost predmetnih oznak smo primerjali z nekaterimi bibliometričnimi zakonitostmi, ki so jih ugotavljali Bradford, Zipf in drugi. 80 % od vseh 357 različnih deskriptorjev (ENI in ENC združenih skupaj) se je pojavilo le enkrat ali dvakrat. Deskriptorji za organizme so se pojavljali najpogosteje (bacteria: šestnajstkrat, useful animals: trinajstkrat). 20 % različnih deskriptorjev je bilo prirejeno polovici vseh prispevkov. Med 221 ENI se jih je 154 pojavilo le enkrat. Pri ENI so se najpogosteje pojavljali pojmi za vidike (chemical composition: enajstkrat, proximate composition: desetkrat). V besedilu razlagamo tudi nekatere značilnosti indeksiranja, kot so raba sinonimov (sopomenk) ali sorodnih izrazov. Rezultate indeksiranja z makrokategorijami CC lahko razložimo le z omejitvami, kajti v makrokategorizacijskih shemah Agris ne obstajajo ustrezne kategorije za področja mikrobiologije oz. biotehnologije mikroorganizmov. Vse zapise slovenskega vnosa v Agris je vsebinsko procesiral en sam dokumentalist, tako da je s tem precej povečana konsistenca oz. doslednost indeksiranja, kar vpliva tudi na uspešnost iskanja oz. iskalni odziv.

Ključne besede: zootehnika / revije / indeksiranje / kazala / tezavri / identifikacija / zbiranje podatkov / analiza podatkov / obdelava podatkov / znanstvena informatika / informacijske storitve / dokumentacija / podatkovne zbirke

INTRODUCTION

The journal Research Reports Biotechnical Faculty University of Ljubljana is considered as the leading Slovenian agriculture-related scientific publication. The Reports are published as three separate ISSN series: a forestry and wood science-related series, an animal science series, and a plant science series. The later two series contain also food science-related articles. The animal and the plant series are set up as two alternating volumes dedicated either to animal or plant sciences and production. Our contribution explores some bibliometric parameters with regard to the animal or zootechnical (zootechny) volumes of the Research Reports. The aim of our research is to assess main subject areas that have in the process of indexing been attributed to the respective articles. We thus wish to identify main research topics or subjects. We also wish to compare the topical distribution in articles with some bibliometric principles that govern scatter of information.

Individual journals can sometimes serve as a good basis for bibliometric research. In agriculture, however, there has been less investigation of possibilities presented by journals as a compact account of scientific progress. Most research of this kind has nevertheless been based on "national" scientific journals, i.e. journals that record research in a particular country. Even though much scientometric research has been based on Science Citation Index bibliometric indicators, national journals still play an important role in the transfer of information into practical application (Sanz *et al.*, 1995).

REVIEW OF LITERATURE

Balog investigated information-content of titles of papers (1981) and authorship with regard to a topic in an agricultural journal (1985). Bibliographical formats, along with subject dispersion in a national journal on agricultural economics was studied by Harper (1991). Majid (1995), along with several other parameters, investigated subject coverage of two volumes of the Pakistan Journal of Agricultural Research. Sharma (1995) identified publication trends in Crop Science Journal with regard to plant genetics and breeding. Xu and Wang (1996) analyzed subject distribution in *Scientia Silvae Sinicae* and *Scientia Agricultura Sinicae* for the year of 1993. Patil (1996) investigated agropedological literature published in the *Agropedology*

Journal, based on citation analysis of references and on subject coverage. Xu and Wang (1998) looked into citation of articles from the Journal of Shanghai Agricultural College. Urushadze (1999) examined specifics, properties, and regimes of the soils in the Caucasus based on journal *Pochvovedenie*.

Non journal-specific bibliometric research can also be found in relation to agriculture. The dispersion of topics in agricultural economics was investigated by Mahapatra and Musib (1984). Nasir *et al.* (1994) carried out an analysis of subject areas in key agricultural journals in Malaysia.

We further present some other journal-specific non agricultural research. Quantitative content analysis with regard to the headings and thematic topics in a psychology-related journal was carried out by Kirschbaum (1993). Horton *et al.* (1993) investigated content and consistence of actual practice with commonly recommended research methods and procedures in three volumes of the Journal of Research in Science Teaching. Content analysis of library and information science serial literature published in Denmark was evaluated by Kajberg (1996). Williams and Buboltz (1999) examined topical changes and trends over time in the Journal of Counseling & Development.

The following analysis is a continuation of our examination of the Slovenian agricultural published output. In our first analysis (Bartol, 1995) we determined the occurrence of topics in the Slovenian agriculture-related published documents in the years 1993 and 1994 as based on the categorization schemes of the Agris database. Some 140 documents were found to be (to a greater or lesser extent) related to plant science, 125 to animal science, 120 to food science, and 105 to forestry and wood science. Our second (Bartol, 1996) analysis evaluated the descriptors of Slovenian plant science documents in the Agris database in the period 1993–1995. In our present research we will elucidate some further characteristics of subject coverage in Slovenian agriculture-related literature.

MATERIAL AND METHODS

We selected the Research Reports Biotechnical Faculty University of Ljubljana. Agriculture. Zootechny (Research Reports) which is the most important national source of agricultural scientific information in Slovenia. Our study involved four numbers of two volumes (74 and 76) of the zootechnical issue (Zootechny or Zootechnica). Volume 75 was excluded because it contained only articles related to plant or crop production what was not the subject of this analysis. We established the study solely on the topical characteristics of respective articles. As a source of subject indexes we selected the Agris database and its particular indexing fields (Agrovoc descriptors and broad category codes). The author keywords have been ignored as they usually do not comply with the rules that control the indexing consistency. The Slovenian Agris data are processed at our centre and are regularly transferred to the central processing unit at the FAO in Rome.

Construction of subject indexes

For each record pertaining to the selected volumes of the Research Reports we downloaded the three subject fields of Indexer assigned descriptors (ENI), Computer assigned descriptors (ENC), and the category codes (CC). The ENI as well as CC are generally assigned to each particular document (article) in the intellectual process of the subject analysis (also called indexing) of an article by a knowledgeable information professional (indexer). The Agris descriptors derive from the Agrovoc thesaurus. An indexer normally attributes to each particular document between five and ten descriptors. This number will depend on the specificity of topics (subjects) in the document. The CC represent generalized topics in a document and must,

according to the Agris classification schemes, be summarized by maximally three different categories. In many cases only one category suffices. There are only a few dozen different CC. The Agrovoc, however, is structured according to general principles that direct the construction of thesauri (Graph 1). In comparison with the rather limited number of CC there are thousands of different descriptors in the Agrovoc. To simplify indexing and to enhance record recall in document retrieval the Agris database provides the utility sometimes called explode or expand. The utility is based on ENC. The ENC are generated automatically by a specific computer program whereby all the broader descriptors are automatically assigned to each particular elementary descriptor that has been chosen by an indexer. A document manually indexed by the term dairy cows will thus be retrieved by all the terms preceded by the acronym BT (broader term) (Graph 1).

DAIRY COWS:

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BT1 dairy cattle
  BT2 cattle
    BT3 bovinæ
      BT4 bovidæ
        BT5 ruminants
          BT6 mammals
BT3 livestock
  BT4 domestic animals
    BT5 useful animals
  
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Graph 1. Example of hierarchical structure of descriptors in the Agrovoc thesaurus.

As the No. 2 of the vol. 76 had not been automatically processed by the FAO processing unit at the time of our analysis we had to manually emulate the explode utility for this particular journal number. We employed the copy-paste procedure to simply the extract of pertinent ENC data from the online version of the Agrovoc thesaurus. In other words, we took the ENI records from our local database and pasted all the respective broader descriptors (ENC) to each ENI descriptor. We thus gathered the uniform and consistent subject data files that were needed for our further analysis. We thereupon combined all the ENI and ENC in a single file and then coupled all the bibliographic data in connection with each particular descriptor in order to generate a descriptor-based subject index to the two volumes of the Research Reports. A similar procedure was also applied to the category codes.

The two subject indexes based on descriptors and on broader category codes are presented as Appendix A (descriptors) and Appendix B (category codes). The indexes are the result of subject analysis and synthesis of the articles by professional indexer. They served as a material for further analyses.

The analyses performed on subject indexes

We ranked all the descriptors according to their occurrence in the records. We hereby tested some principal bibliometric laws that are relevant in description of the distribution and generation of information. The Bradford's law of scattering (1934), expressed as $1 : n : n^2$, and which is cited by far the most frequently, states that the majority of articles of any given subject area is published (scattered) in a relatively small group of journals ($1 =$ core or nucleus). The second zone contains the same number of articles which are, however, scattered among a higher number of journals (n). The third zone again contains the same number of articles which are scattered among a very high number of journals (n^2) where most journals contribute only one article each. Garfield (1980) pointed out the resemblance of the Bradford distribution and a comet with a nucleus and a tail. Lotka's law of scientific productivity (1926), based on an inverse

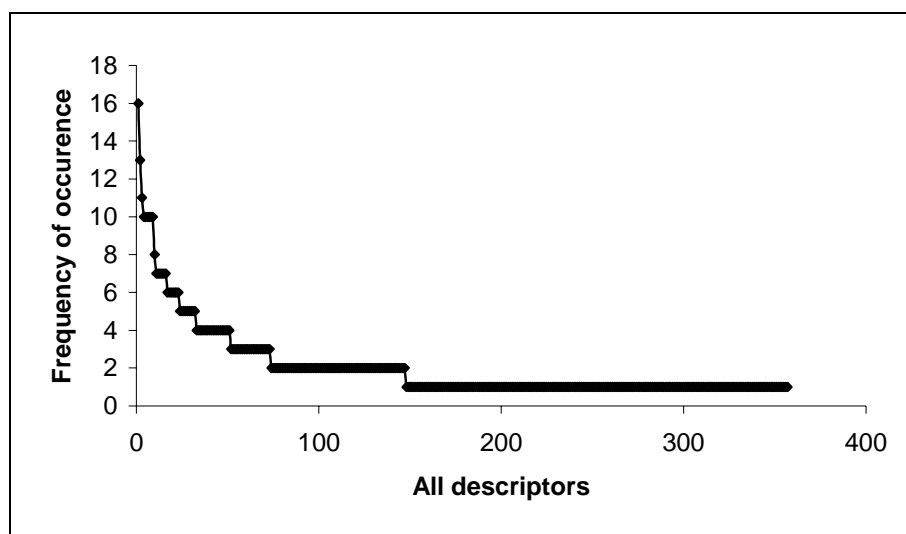
square law, states that for every 100 authors 25 will contribute 2, 11 will contribute 3, and 6 will contribute 4 articles each, etc. The proportion of authors that make a single contribution, is about 60 percent. De Solla Price (1963) modified the law by proposition that half of the scientific documents were theoretically produced by the square root of the total number of authors in a subject area. Zipf's law on rank and word frequency (1949) determines that a few selected words occur very frequently in a text. This occurrence gradually decreases to those words that are used very rarely. Trueswell (1965) applied an early Pareto's law (1897) on distribution of income or wealth in a society and stated that some 20 % of library items would generate some 80 % of all demand whereas 80 % of the items would be borrowed on 20 % of instances (also called 80/20 rule).

In our study the above distributions will be roughly observed on the example of descriptors assigned to the articles in the Research Reports.

RESULTS

Analysis of indexer assigned descriptors and computer assigned descriptors

The indexes (appendices A and B) are a result as well as a material that has enabled further analysis. More detailed analyses in our text are dedicated to the distribution of occurrence of topical subjects. The principal distribution in our study is presented in Graph 2 and Table 1. Both indexer assigned descriptors (ENI) and computer assigned descriptors (ENC) are shown together as coupled conjointly in a single series.



Graph 2. Frequency of occurrence of each respective descriptor (indexer-assigned and computer generated).

In Graph 2 we can observe a rather well pronounced inverse Bradford curve of distribution of descriptors. Both descriptors as well as the category codes were synthesized from altogether 48 articles in both volumes. A consideration of Table 1 shows a certain "core" of descriptors that had been most frequently assigned to the articles, the highest number being 16 (bacteria). It can be attributed mostly to the computer generated ENC descriptors. The highest frequency of occurrences generally goes with organism descriptors – especially in the systems with the above expand utilities. This is in some way expected. Such hierarchical structures are easier to make with organisms than with some other more abstract terms, so the organisms in thesauri are

usually attributed a higher number of hierarchical levels. Occasionally there exist indexing and retrieval difficulties also with organisms. The Agris indexing rules require that e.g. a plant (during vegetation) be indexed with a Latin term whereas the plant used (processed) as food or feed be indexed with the English term (i.e. *Zea mays* vs. maize). Such accurate distinctions, however, are sometimes difficult to make.

Table 1. Descriptors with an occurrence of five or more times (indexer-assigned and computer generated descriptors)

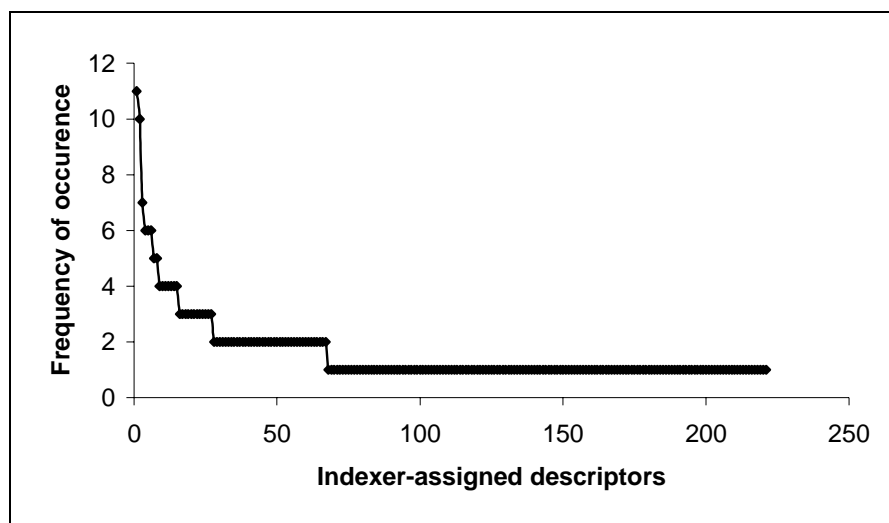
DESCRIPTOR	Number of occurrences	DESCRIPTOR	Number of occurrences
bacteria	16	animal performance	6
useful animals	13	bovidae	6
chemical composition	11	dna	6
acids	10	genetics	6
domestic animals	10	identification	6
livestock	10	molecular genetics	6
mammals	10	plant products	6
organic acids	10	bacteroidaceae	5
proximate composition	10	body parts	5
milk performance	8	cattle	5
feeds	7	cereals	5
microbiology	7	enzymes	5
nucleic acids	7	fermented products	5
nucleic compounds	7	isolation techniques	5
processed products	7	microbial flora	5
ruminants	7	quality	5

Table 2. Frequency of occurrence of descriptors and count of each descriptor in relation to particular frequency (indexer-assigned and computer generated descriptors)

Number of occurrences	Number of descriptors	All occurrences of descriptors
16	1	16
13	1	13
11	1	11
10	6	60
8	1	8
7	6	42
6	7	42
5	9	45
4	19	76
3	22	66
2	74	148
1	210	210
Total	357	737

The number of descriptors with regard to an occurrence of the particular descriptor (Table 2) shows quick decreasing. Among 357 different descriptors as many as 284 (80 %) have thus been

assigned only once or twice. On the other hand some 20 % of descriptors have been assigned to roughly half the articles.



Graph 3. Frequency of occurrence of each indexer-assigned descriptor.

Distribution of indexer-assigned descriptors shows similar patterns (Graph 3, Table 3). Here again a certain core of descriptors accounts for a disproportionately high number of all indexations whereas as many as 154 descriptors among all of the 221 different descriptors occur only once. The highest frequency of core indexer-assigned descriptors (Table 4), however, goes with more general terms rather than with organisms. The opposite has been the case with the coupled descriptor schemes (Table 1).

Table 3. Frequency of occurrence of descriptors and count of each descriptor in relation to particular frequency (indexer-assigned descriptors)

Number of occurrences	Number of descriptors	All occurrences of descriptors
11	1	11
10	1	10
7	1	7
6	3	18
5	2	10
4	7	28
3	12	36
2	40	80
1	154	154
Total	221	343

If we now examine the term chemical composition, which occurs in the highest frequency, we can see that it is immediately followed by the term proximate composition. The meaning of these two terms is in fact rather similar. Proximate composition namely denotes such issues as feed composition, feed nutrient content, food composition, food nutrient content, etc. Many indexers thus employ both descriptors within the same document.

Table 4. Descriptors with an occurrence of three or more times (indexer-assigned descriptors)

DESCRIPTOR	Number of occurrences	DESCRIPTOR	Number of occurrences
chemical composition	11	silage	4
proximate composition	10	animal nutrition	3
microbiology	7	bacillus licheniformis	3
bacteria	6	digestibility	3
identification	6	green feed	3
molecular genetics	6	microscopy	3
dna	5	milk yield	3
isolation techniques	5	poaceae	3
dairy cows	4	research	3
enzymes	4	rumen	3
grasses	4	scientists	3
maize	4	stress	3
prevotella	4	ultrastructure	3
rumen microorganisms	4	quality	3

Analysis of category codes

If we now observe macroindexing with Agris category codes we can see a more even distribution of the topical areas (Table 5). We again present only the categories with higher occurrence. All occurrences can be found in the Appendix B. The codes deal only with broader subject aspects and do not imply organisms. These are synthesized only as descriptors. The highest frequency goes, as expected, with the general animal-related category Animal-husbandry. The same high occurrence applies to the Animal-physiology-nutrition. This category contains also the microbiology-related documents of rumen physiology. The Agriculture-general-aspects is sometimes attributed to the documents if there exists no very narrow category that could be more appropriately attributed to documents. A seemingly rather high occurrence of Plant-physiology-and-biochemistry ought to be explained by the methodological rules of indexing whereby this category denotes the chemical composition of plants used as animal feeds. In theory there is some distinction between this category and the category Feed-composition. The practical indexing, however, usually employs both categories within the same document.

Given the relatively low number of records a more complex analysis of category codes is not applicable in the case of present contribution. This will be an objective of our further research in the field. We will then select a much longer period and more publications what will render possibilities of a much more thorough analysis.

DISCUSSION AND CONCLUSIONS

In this contribution we have sought to elucidate topical areas that can be identified from the existing indexing and classification patterns of the articles in the Research Reports as yielded by the Agris database. These areas depend largely on analysis and synthesis by an indexer and so cannot be regarded as the sole criterion of the existing topics in the said publication. The intricacies of classification and indexing processes are rather complex and cannot be extensively explained in this text. They depend on indexer's experiences and general knowledge of the field. An absolute indexing consistency can never be reached. The consistency of Slovenian Agris

input, however, is enhanced by the fact that all the documents have so far been indexed by only one person.

Table 5. Agris category codes (macrocategories) with occurrence of three or more times

CATEGORY CODE	Number of occurrences
Animal-husbandry	10
Animal-physiology-nutrition	10
Plant-physiology-and-biochemistry	7
Agriculture-general-aspects	6
Animal-genetics-and-breeding	6
Animal-physiology-and-biochemistry	5
Feed-composition	5
Animal-physiology-Reproduction	4
Food-composition	4
Documentation-and-information	3
Animal-physiology-Growth-and-development	3
Animal-diseases	3

In such a case it is easier to observe a few standard rules of scattering. We can conclude that the distributions in our analysis follow the prevailing scientometric patterns of inverse proportions of the frequency and rank. In the case of our analysis the distributions of descriptors can most appropriately be outlined by the laws expressed by Bradford, Trueswell, and especially Zipf. The later used the occurrence of words in his studies. We can observe a core of a limited number of descriptors that have been attributed to a rather high number of documents. The indexing rules, however, have some particular specifics. In thesauri there are no so called "stop words" that are usually excluded from some retrieval systems – such as conjunctions, prepositions, articles, personal pronouns, etc. The words with an intrinsically high Zipfian frequency thus cannot turn up in a descriptor system. On the other hand many synonyms get merged into one only form thus acquiring certain Zipfian characteristics.

The indexing rules can provide only a limited consistency. Many other closely or less closely related terms can be used to describe the same topic. Also, some indexers may prefer using fewer descriptors. A couple of examples: Descriptors such as fertilizers and fertilizer application may be used almost interchangeably. Instead of bacteria and rumen a single descriptor rumen microorganisms could be used. This later descriptor is both more general and more specific than the previous two. A scientometric analysis which surveyed the occurrence of the single term rumen only would thus show only a part of the actual occurrence of this topic. This is also the case in our study where the investigation of the occurrence of these terms in the index (Appendix A) reveals that the rumen microorganisms records are not the same as the rumen-only records. Some care must therefore be exercised while interpreting the frequency and drawing conclusions from it.

With our example we can further point to some serious faults that can be found in the existing classification schemes or Category Codes. Namely, there exists no particular category that could be attributed to microbiology or biotechnology of microorganisms in general, esp. in the case of microorganisms being the main objective of a research. A category that can on such instances sometimes be used is that of Animal-physiology-nutrition. Such usage, however, is very limited and can only be applied to the microbial flora. So unfortunately the only category that can sometimes be employed with microbiology is that of Agriculture-general-aspects what is of

course far from accurate and has not much informative value in a database that deals only with agriculture. Certain scientometric results can thus turn out to be rather inaccurate, not because of the method itself but because of the limitations of the research material that is being dealt with.

We can maybe also point out that such analyses can only be effective in a controlled indexing environment of a well structured database even though the indexer's bias can never be completely excluded. Such bias can at least carry less weight provided that the indexing rules are not too complicated and that the indexing services employ knowledgeable specialists. In case of smaller information services it can only be too helpful if classification and indexing is carried out by only a limited number of highly skilled professionals.

An important aspect of such analyses is a possibility of mapping of development of a certain scientific field or discipline under certain conditions – the conditions in our case being research in relation to Slovenia. Such investigations can fairly well define research objects/subjects and also aspects. More comprehensive investigations of a longer period can yield some interesting information in this respect.

The possibility of performing scientometric analyses with this kind of data can also substantially enhance the quality of indexing. The indexer or information professional is made aware that his or her information products (assigned descriptors or category codes) will be used as a substance of further analysis. This represents a positive pressure in direction of quality and consistency of indexing. This will then invariably result in the final, and originally the principal, purpose of indexing – the quality of information retrieval and end user's satisfaction.

We can thus sum up a multiple purpose of this kind of research: a possibility to map science in a certain field, allow quality control of information professionals, and provide improved indexing tools to be used for information retrieval.

POVZETEK

V prispevku smo bibliometrično ovrednotili pojavnost posameznih predmetnih oznak v zapisih bibliografske podatkovne zbirke Agris, ki se nanašajo na letnika 74 (1999) in 76 (2000) Zbornika Biotehniške fakultete Univerze v Ljubljani. Kmetijstvo. Zootehnika (Research Reports Biotechnical Faculty University of Ljubljana. Agriculture. Zootechny) (skupaj 48 člankov). Predmetne oznake v zbirki Agris sestojijo iz deskriptorjev in predmetnih kategorij. Deskriptorji se delijo na tiste, ki jih je določil specialist (indexer assigned descriptors: ENI), in na računalniške (computer assigned descriptors: ENC), ki se avtomatsko priredijo deskriptorjem ENI po načelu explode oz. expand. Deskriptorji so namenjeni označevanju specifičnih pojmov, predmetne makrokategorije (Agris category codes: CC) pa označevanju osnovne teme v dokumentih. Iz teh predmetnih oznak smo uredili dve kazali, in sicer eno skupno kazalo za ENI in ENC ter drugo kazalo za CC. Kazali sta rabili kot material za nadaljnjo analizo. Razkropljenost vsebinskih tem po posameznih prispevkih smo primerjali z nekaterimi bibliometričnimi zakonitostmi, kot so npr. Bradfordov zakon o razkropljenosti informacij in Zipfov zakon o pojavnosti besed v naravnih jezikih. Pri skupnih podatkih za ENI in ENC so se najpogosteje uporabljali deskriptorji za organizme, in sicer bacteria šestnajstkrat, useful animals trinajstkrat, chemical composition enajstkrat ipd. 20 % različnih deskriptorjev je bilo prirejeno polovici vseh zapisov, 80 % od vseh 357 različnih deskriptorjev pa se je pojavilo le pri enem ali dveh zapisih. Vseh pojavnosti ENC je bilo 737. Med 221 različnimi ENI se jih je 154 pojavilo le enkrat, vseh pojavnosti pa je bilo 343. Pri ENI so se najpogosteje pojavljali pojmi za vidike, in sicer chemical composition enajstkrat, proximate composition desetkrat, microbiology sedemkrat ipd. Kratko smo interpretirali tudi nekatere značilnosti indeksiranja pri zbirki Agris, kot so npr. zakonitosti rabe sinonimov (sopomenk) ali sorodnih izrazov (npr. chemical composition v primerjavi s proximate composition), raba enega samega deskriptorja v primerjavi s kombinacijo

dveh ali več deskriptorjev, razlika med rabo latinskih in angleških izrazov pri rastlinah ipd. Rezultate predmetnega označevanja z makrokategorijami CC smo razložili le zelo splošno, saj smo zajeli premalo podatkov. Poleg tega obstaja v sistemu CC precejšnja pomanjkljivost, ki otežuje natančnejšo razlago pojavnosti širših vsebinskih področjih. Makrokategorizacijske sheme Agris namreč ne vsebujejo posebnih kategorij za področje mikrobiologije oz. biotehnologije mikroorganizmov. Vse zapise slovenskega vnosa v Agris je predhodno vsebinsko obdelal en sam dokumentalist, tako da je bila s tem precej povečana konsistenca oz. doslednost indeksiranja. To pozitivno vpliva tudi na iskalni odziv oz. uspešnost iskanja dokumentov v elektronskih informacijskih virih.

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Appendix A. Index to KEYWORDS, assigned to the vol. 74 and 76 of Zbornik Biotehniške fakultete Univerze v Ljubljani. Kmetijstvo. Zootehnika. (Research Reports Biotechnical Faculty University of Ljubljana. Agriculture. Zootechny) (Agrovoc descriptors)

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