MODEL OF AGRICULTURAL LANDSCAPE CATEGORIZATION

MODEL TYPIZÁCIE POĽNOHOSPODÁRSKEJ KRAJINY

JOZEF VILČEK

Soil Science and Conservation Research Institute, Bratislava
Výskumný ústav pôdoznalectva a ochrany pôdy, Bratislava

VILČEK, J.: Model of agricultural landscape categorization. Agriculture (Poľnohospodárstvo), vol. *53*, 2007, N. 1, pp. 31–37.

The report is dealing with the categorization of the agricultural landscape. Present classificatory systems of the landscape were analysed as the source material, here the soil, geographic, and production specifics of individual Slovak regions were considered preferentially.

On the background of vector data on extension of the soil-ecological regions of Slovakia using geographic information systems, it was possible to detach the five types of agricultural landscape on the basis of real production parameters of individual districts during 1997–2003, as well as potential production parameters of evaluated soil-ecological units. To these types the attributes were assigned according to the characteristic and predominat soil type or kind. Representation of individual types of agricultural landscape in total agricultural soil is as follows:

- Záhorská lowland – light-textured soil of lowlands (Regosol type) – 3.6 %;
- Danubian lowland – medium heavy soil of lowlands (Chernozem type) – 30.9 %;
- East-Slovakian lowland – heavy soil of lowlands (Fluvisol type) – 7.2 %;
- lower and medium level basins (Stagnosol type) – 12.2 %;
- submountains and mountains areas (Cambisol type) – 46.1 %.

Detached types of the agricultural landscape are characterized in more details in the report mostly from the pedological point of view (climatic region and soil characteristic – soil type, granularity, steepness, skeletality, production category, depth, point value, potential erosion). Potential type structures of seeding for the individual types have been elaborated as well as model productive and ecomomic parameters, which are possibly accessible, have been stated.

Selected typification of the agricultural landscape could be not only a suitable planning criterion but also the basis of implementation and realization of the state agricultural and soil policy.

Key words: landscape, agricultural categorization, pedological characteristics of the landscape, productive and economic parameters

There are significant differences in exploitation of the agricultural landscape in the different regions of the Slovak Republic. These are namely due to historical traditions, existing infrastructure but predominantly due to soil and climatic conditions. Availability of the country for the agricultural exploitation was elaborated very well in the past. It was objectively related to the effort to provide sufficiency even self-sufficiency in food production, as well as to the fact that almost one half of our territory is covered by the agricultural landscape.

Knowledges concerning the soil properties were, still are and will be the basic initial foundation for the following solutions of current questions on exploitation of the country sources. At present, the applied outputs aimed at rationalization of potential exploitation of the agricultural landscape from both ecological and economic points of view are created. The investigation tendency in this field is still more and more based on using geographic information

Prof. Ing. Jozef Vilček, PhD., Workplace of SSCRI, 080 01 Prešov, Reimannova 1. E-mail: vilcek@vupop.sk

systems, distance soil examination, model application and simulation.

D e m o [1] states that correct evaluation, disposition and exploitation of the soil in addition to its protection is the existential condition of nature preservation, environmental pro-tection as well as condition for economic and social development of society. Maturity of the country and its inhabitants is evaluated by their relationship to the soil. According to K o v á č et al. [3], optimalization of exploitation of the environment and landscape potential supposes development of the optimal space and functional structure of the landscape, which has to correspond with natural and socio-economic potential of the region.

Several studies have dealt with relationships between agricultural plants demands and soil habitat under conditions in Slovakia. Classification of agricultural activities into so-called production areas is used so far. In 1956, L u k n i š [4] divided soils of Slovakia into seven categories, which show close correlations with the distribution of soil types and sorts, relief, altitude, geological structure, climate and hydrologic characteristics, but also with economic factors. On the basis of evaluation of the space structure similarities and/or differencies of space structure in quality soil-ecological units in a given area, D ž a t k o et al. [2] divided agricultural soils into 533 subregions, 74 regions, 13 sublocalities and 4 localities. Considerably significant results in evaluation of agricultural production conditions were obtained by Z e l e n s k ý [12, 13], who on the basis of factor analysis of 44 variables excluded and depicted 9 types and 42 subtypes of agricultural landscape potential on the map in scale 1:500 000.

Due to the development of computer techniques, especially due to the use of geographic information systems (GIS), it is possible on the basis of existing information systems concerning soils and modern database on soil properties to quantify and detach more precisely not only agro-soil regions but also to assign the categories of suitability of the soil for agricultural crops growing.

The aim of this report is to propose a new model of categorization of the agricultural landscape considering pedologic, productive as well as geographical regional specifics.

MATERIAL AND METHODS

Methodical approach to solving the task was mainly based on the results of pedological investigation of agricultural soils in Slovakia, which represents a rich database of their properties, space differentiation, exploitation and protection. The following methods and information were used:

- statistical data (according to the district division of Slovakia) on representation and yield of the main agricultural crops in 1997–2003;
- soil, productive and economical parametres analysis of existing classificatory systems of agricultural soils in Slovakia (production areas, soil-ecological subareas, and territorial units – regional level);
- site index data bank (Soil Science and Conservation Research Institute SSCRI in Bratislava, Research Institute of Agricultural and Food Economics in Bratislava);
- available and innovated methods of relative soil site index evaluation, suitability of the soil for agricultural crops growing [10, 11] and typologically – productive categorization of agricultural soils [2];
- files database SSCRI on site index soil-ecological units (ISEU) and their point evaluation within a hundred point scale [3];
- updated ISEU maps complex (scale 1 : 5000) in digital version (GIS ARC INFO), followed by the files database on ISEU (SSCRI, 2004);
- soil-ecological regionalization of agricultural soils in Slovakia [2];
- knowledge acquired from creating the models of rational utilization and organization of agricultural soil fund [6];
- possible economic soil parameters [8] etc.

For the needs of evaluation of agricultural landscape typification (present classificatory systems) the boundary layers of individual regions (production areas, soil-ecological subareas and territorial units – regional level, less favoured areas) were within the geographic information system ACR INFO tilted with boundary layers and codes of ISEU and thus the databases of ISEU structure in these regions were

created. Pedological characteristics of the regions were created by deciphering of ISEU code using EXCEL programme filter.

The system of regional soil-ecological units [2] for presentation of agricultural landscape typification in Slovakia was used. This system is originally based on the regional geomorphological classification [5]. In regard to the analysis of the real achieved productive parametres (data of Slovak statistical office on acreage and yield of the main agricultural crops in 1997–2003), this system was generalized into five types. By using PEDOPT 2000 [9] model, potentially possible productive and economical parametres of these types were determined.

RESULTS AND DISCUSSION

So far used and accepted classifications of the agricultural landscape into the objective landscape areas were initiated by the needs of society, application purpose as well as by the real scientific and practical knowledge of the period in which they were created.

Therefore it is logical that development of any landscape classification reflects the current needs and technical level of society. At the same time it is obvious that the „old“ classifica-tions lose their topicality and they are replaced by new and current ones.

Classification according to the so-called production areas in various modifications has been used for the typification of the Slovak landscape since 20-ties of the last century. It is still possible to find maize, beet, potato, or mountain production areas. Regarding the fact that production areas respect the climatic differencies only imperfectly and data on soil quality are based on the older and disintegrated pedological investigations, which are overcome by the results of modern pedological characteristics, these production areas gradually lose their topicality. In the 90-ties of the last century, the landscape categorization according to the so-called soil-ecologic units [2] started to be used especially for the conceptions of agricultural development in Slovakia. Production structures, which take into account not only productive but also ecological aspects of landscape utilization, were elaborated for the level of soil-ecological sublocalities (13) and regions (74). However, practical application of these structures was not possible as this is too detailed classification.

Referring to the existing classificatory systems and regarding the existing arrangement and intensity of agricultural production as well as following the latest information database on soil and environment characteristics and further the mutual relations between soil-ecological conditions of the site and its productive and economical possibilities, the model of agricultural landscape typification, which respects so far created categorizations and also suits immediate application needs in practical sphere, was designed.

In regard to the analysis of natural yielding in the last seven years, which showed no significant differencies between so called mountain and submountain areas, or subareas, typification was based on generalisation of the soil-ecological subareas (SES) used in the past especially for conception plans and strategies of exploitation of agricultural soils productive potential. In this way, respecting predominantly soil and climatic specifics, the agricultural land in Slovakia was divided into the following types (fig. 1):

- Záhorská lowland – light-textured soil of lowlands (Regosol type) – 3.6 %
- Danubian lowland – medium heavy soil of lowlands (Chernozem type) – 30.9 %;
- East-Slovakian lowland - heavy soil of lowlands (Fluvisol type) – 7.2 %;
- lower and medium level basins (Stagnosol type) – 12.2 %;
- submountain and mountain areas (Cambisol type) – 46.1 %.

Pedological characteristcs of agricultural landscape types

Záhorská lowland – light-textured soils of lowlands (Regosol type):

- most of this type occur in a very dry, plain climatic region (78.0 %) and warm enough, dry, hilly region (21.5 %);
- prevailing soil type is Mollic Fluvisols (34.4 %), Regosol (29.9 %), Haplic and Calcic Luvisols (11.7 %), Fluvisol (10.4 %) and Chernozem (8.9 %);
- territory relief is made of flatlands (74.2 %)

to medium hills (19.4 %);
- soils are mostly without skeleton (81.4 %) to slightly skeletal (16.4 %);
- deep soils are predominant (91.8 %);
- as to granularity concerns, soils are light (sandy – 43.9 %) to medium heavy (sandy loam to loam – 46.8 %);
- soils average point value is 67.1 points;
- very productive arable soils are prevailing (26.6 %) and less productive arable soils (20.4 %);
- 73.3 % of soils are not threatened by water erosion.

Danubian lowland – medium heavy soils of lowlands (Chernozem type):
- this type occurs in a very warm, very dry, plain climatic region (59.1 %), warm, very dry, plain (32.6 %) and warm enough, dry, hilly (8.1 %) regions;
- predominant soil type is Chernozem (34.7 %), Haplic and Calcic Luvisols (19.8 %), Mollic Fluvisols (17.1 %) and Fluvisol (15.4 %);
- territory relief is made of flatlands (77.5 %) to medium hills (15.8 %);
- soils are mostly without skeleton (92.3 %) to slightly skeletal (4.3 %);
- deep soils are predominant (94.3 %);
- as to granularity concerns, soils are medium heavy (sandy loam to loam – 73.6 %),
- soils average point value is 77.9 points;
- highly productive arable soils are predominant (28.6 %) and very productive arable soils (19.9 %);
- 73.7 % of soils are not threatened by water erosion.

East-Slovakian lowland - heavy soils of lowlands (Fluvisol type):
- this type occurs in a warm, very dry, plain, continental climatic region (93.7 %);
- predominant soil type is Fluvisol (43.6 % – hereof 36.0 % is Gleyic Fluvisols), Pseudogleyic (19.7 %) and Gleyic (14.4 %);
- territory relief of agricultural soils is made of flatlands (86,4 %) to medium slopes (10.6 %);
- soils are mostly without skeleton (95.0 %);
- deep soils are predominant (96.9 %);
- as to granularity concerns, soils are mostly medium heavy (sandy loam to loam –

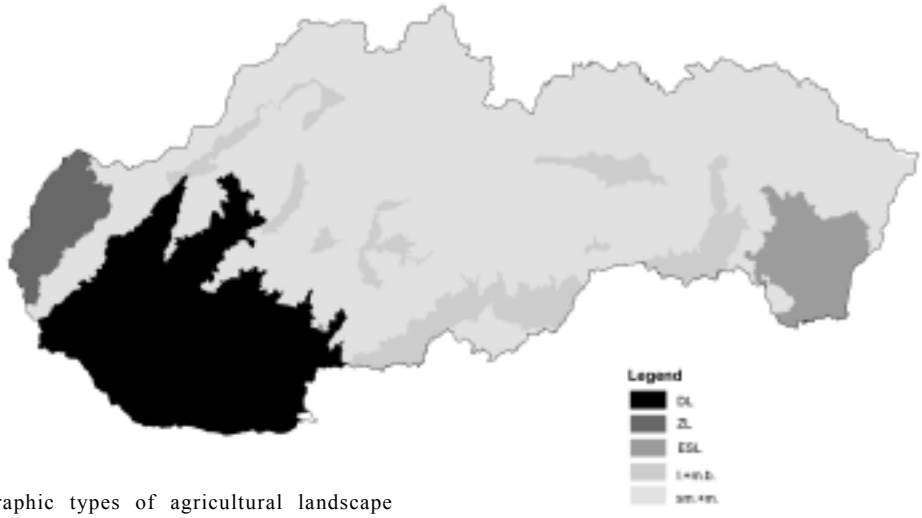

Fig. 1. Pedo-geographic types of agricultural landscape
Obr. 1. Pedogeografické typy poľnohospodárskej krajiny

DL – Danubian Lowland – medium heavy soil of lowlands (Chernozem type)
Podunajská nížina – stredne ťažké pôdy nížin (černozemný typ)
ZL – Záhorská Lowland – light-textured soil of lowlands (Regosol type)
Záhorská nížina – ľahké pôdy nížin (regozemný typ)
ESL – East-Slovakian lowland – heavy soil of lowlands (fluvisol type)
Východoslovenská nížina – ťažké pôdy nížin (fluvizemný typ)
l.+ m.b. – lower and medium level basins (Stagnosol type)
nízko a stredne položené kotliny (pseudoglejový typ
sm.+ m. – submountains and mountains areas (Cambisol type)
podhorské a horské oblasti (kambizemný typ)

50.6 %), heavy (clayey loam – 22.9 %) to very heavy (clayey – 23.0 %);
- soils average point value is 64.2 points;
- productive arable soil is predominant (35.5 %) and medium productive arable soil (16.9 %);
- 72.8 % of soils are not threatened by water erosion.

Lower and medium level basins (Stagnosol type):
- this type occurs predominantly in a warm, very dry, basinal, continental climatic region (40.6 %), and region quite warm, dry, basinal, continental (25.1 %);
- soil types consist of Pseudogleyic (24.6 %), Fluvisols (23.6 % – hereof 13.2 % is Gleyic Fluvisols, Cambisol (17.6 %) and Haplic and Calcic Luvisols (17.0 %);
- soils occur in the flatlands (49.9 %), slight slopes (26.6 %) and medium slopes (16.7 %);
- soils are mostly without skeleton (68.4 %), or slightly skeletal (15.6 %);
- deep soils are predominant (78.0 %);
- as to granularity concerns, soils are mostly medium heavy (sandy loam to loam – 72.6 %) to heavy (clayey loam – 24.5 %);
- soils average point value is 56.5 points;
- predominant are productive arable soils (24.6 %) and medium productive arable soils (19.4 %);
- 41.5 % of soils are moderately unthreatened by water erosion.

Submountains and mountains areas (Cambisol type):
- these types occur in the following climatic regions: medium warm, medium wet (21.8 %), medium cool, medium wet (15.9 %), cool, wet (12.1 %) and very cool, wet (26.8 %);
- predominant soil types are (68.4 %), Rendzic (8.4 %), Fluvisol (6.8 %) and Pseudogleyic (5.2 %);
- soils occur in the flatlands (11.7 %), slight slopes (22.5 %), medium slopes (31.0 %), heavy slopes (19.3 %) and steep slopes (15.6 %);
- predominantly they are very skeletal (44.4 %), without skeleton (13.3 %), slightly skeletal (26.3 %) and medium skeletal (16.1 %);
- shallow soils predominate (44.4 %), deep represents 28.2 % and medium deep 27.4 %;
- as to granularity concerns, soils are medium heavy (sandy loam to loam – 78.4 %) to heavy soils (clayey loam – 15.4 %);
- soils average point value is 33.8 points;
- predominate productive (15.9 %), less productive (26.7 %) and a little productive (15.6 %) permanent grasslands;
- 49.9 % of soils are very strongly threatened by water erosion.

Productive and economical parameters of the agricultural landscape types

Differentiation and heterogeneity of the soil-climatic parameters in individual types of the agricultural landscape admittedly bring the potential heterogeneity of their productive and economical possibilities.

T a b l e 1

Model of crop rotation structure on arable land (%)
Model štruktúry osevu na ornej pôde (%)

Crop ([1])	Type of agricultural landscape ([12])				
	ZL	DL	ESL	l.+m.b.	sm+m.
thick drill cereals ([2])	46.15	47.56	43.82	44.50	43.01
maize ([3])	8.10	12.16	5.86	4.58	–
legume ([4])	4.29	3.83	4.27	4.25	4.53
sugar beat ([5])	2.52	4.43	1.39	0.65	–
potatoes ([6])	2.96	1.70	3.62	3.80	5.29
oil-plants ([7])	5.51	4.93	6.62	8.25	7.13
vegetables ([8])	1.85	2.65	1.58	1.47	0.44
annual fodder ([9])	10.06	8.35	10.92	10.99	12.75
perennial fodder crops ([10])	18.38	14.30	21.68	21.27	26.56
other crops ([11])	0.17	0.10	0.25	0.23	0.29

ZL – Záhorská Lowland – Záhorská nížina
DL – Danubian Lowland – Podunajská nížina
ESL – Východoslovenská nížina
East-Slovakian Lowland
l.+ m.b. – lower and medium level basins
nízko a stredne položené kotliny
sm.+ m. – submountains and mountains areas
podhorské a horské oblasti

([1]) Skupina plodín, ([2]) hustosiate obilniny, ([3]) kukurica na zrno, ([4]) strukoviny, ([5]) cukrová repa, ([6]) zemiaky, ([7]) olejniny, ([8]) zelenina, ([9]) jednoročné krmoviny, ([10]) viacročné krmoviny, ([11]) ostatné plodiny, ([12]) typ poľnohospodárskej krajiny

Respecting the natural soil parameters and following so called typological structures of the crop seeding according to ISEU, a suitable structure of the crop seeding for each type of the landscape, which should ensure better ecological and economical stability than it is at present (tab. 1), was determined by means of an expert system PEDOPT 2000.

T a b l e 2

Soil yield potentials (t.ha^{-1})
Potenciály naturálnej výnosovosti pôd (t.ha^{-1})

Crop (1)	Type of agricultural landscape (14)				
	ZL	DL	ESL	l.+m.b.	sm.+m.
winter wheat (2)	5.59	6.16	5.13	5.14	4.72
winter rye (3)	4.31	4.34	4.14	4.30	4.22
spring barley (4)	5.46	6.01	5.09	5.04	4.58
maize (5)	5.76	6.25	4.85	4.84	–
pea (6)	2.86	3.14	2.59	2.61	2.36
sugar beet (7)	39.31	41.08	35.77	35.78	–
potatoes (8)	21.89	22.97	22.04	22.33	20.67
sunflower (9)	3.03	3.35	2.79	2.79	2.42
winter rape (10)	2.54	2.64	2.45	2.47	2.38
ensilage maize (11)	32.98	44.70	30.92	31.38	29.54
double cut (12)	7.19	7.00	6.69	7.01	7.02
lucerne (13)	9.14	9.50	8.94	8.80	8.47

Symbols are identical with those of table 1.
Symboly ako v tabuľke 1.

(1) Plodina, (2) pšenica ozimná, (3) raž siata, (4) jačmeň jarný, (5) kukurica na zrno, (6) hrach, (7) cukrová repa, (8) zemiaky, (9) slnečnica, (10) repka olejná, (11) kukurica na siláž, (12) ďatelina, (13) lucerna, (14) typ poľnohospodárskej krajiny

T a b l e 3

Potential economical parameters of crop production
Potenciálne ekonomické parametre pestovania poľnohospodárskych plodín

Parameters (1)	Type of agricultural landscape (4)				
	ZL	DL	ESL	l.+m.b.	sm.+m.
profit (Sk.ha^{-1}) (2)	1832	2986	1569	926	–265
profitability rate (%) (3)	12.91	19.01	11.4	7.4	–3.16

Symbols are identical with table 1.
Symboly ako v tabuľke 1.

(1) Ukazovateľ, (2) hospodársky výsledok, (3) miera rentability, (4) typ poľnohospodárskej krajiny

Compared to presently realized structures of the crop seeding, the new models take account of a higher share of perennial fodder crops and decrease of dense-sown cereals in all types of the landscape. Differences in the intensity of agricultural crop growing in the different regions in Slovakia indicate also potentially possible productive parameters. On the basis of productive index database (specified for site index of soil-ecological units and their expanding into individual landscape types) potential productive potential of growing was calculated for certain crops in selected types of agricultural landscape. Particular level of this potential expressed in the yield per hectare of the grown crop is shown in table 2.

More significant differencies in the yields of some crops indicate the suitability of their growing under the given conditions mainly in term of expected profitability.

Calculations concerning economic effectiveness of plant production as a whole (tab. 3) confirm that the centre of intensive exploitation of the soils for agricultural crop growing should be in the lowland landscape type, and the mountain as well as submountain regions are without any additional economic impulses in plant production uncompetitive, thus unprofitable. The differentiation of soil characteristics in these types of the agricultural landscape requires the differentiation of the possible exploitation of the soils and their productive assumptions.

CONCLUSION

Typification of the agricultural landscape, as it is presented in this report, with regard to reflecting geographic, soil-climatic and consequently productive and economic specifics and potentials, can be not only a suitable planning criterion but also a background for administration and realization of agricultural and landscape policy of the state. Given criterion does not atomize the agricultural landscape and at the same time sufficiently reflects heterogeneous natural conditions in Slovakia for practical purposes of plant production distribution.

The potential of the agricultural landscape reflected into the recommended types shows productive and economic parameters of Slovak

regions. While for intensive plant production more suitable lowlands and basins landscape types are economically profitable without a significant state support, the submountain and the mountain regions require subsidiary economic impulses.

This work has been carried out within the project APVV 27-036602 *Information system about exploatation of agricultural landscape potential to support of region development* and project VEGA 1/4366/07 *Pedogeographical aspects of multicultural use of agricultural landscape.*

Received: 21 February 2006

REFERENCES

1. DEMO, M. et al. (1998): Usporiadanie a využívanie pôdy v poľnohospodárskej krajine (Organization and exploitation of the soil in the agricultural landscape). Nitra : Slovak Agric. Univ., 1998, 302 p. ISBN 80-7137-525-X.
2. DŽATKO, M. (2002): Hodnotenie produkčného potenciálu poľnohospodárskych pôd a pôdno-ekologických regiónov Slovenska (Evaluation of the productive potential of the agricultural landscape and the soil-ecologic regions in Slovakia). Bratislava : Soil Sci. and Conserv. Res. Inst., 2002, 88 p. ISBN 80-85361-94-9.
3. KOVÁČ, K. et al. (2003): Všeobecná rastlinná výroba (General plant production). Nitra : Slovak Agric. Univ., 2003, 335 p. ISBN 80-8069-136-3.
4. LUKNIŠ, M. (1956): Bonita pôd na Slovensku (The soil site quality in Slovakia). In: Geogr. Čas., vol. *8*, 1956, N. 4, pp. 202–207.
5. MAZÚR, E. – LUKNIŠ, M. (1979): Regionálne geomorfologické členenie Slovenska (Regional geomorphological classification of Slovakia). In: Geogr. Čas., vol. *30*, 1979, N. 2, pp. 281–301.
6. MICHAELI, E. (1999): Regionálna geografia Slovenskej republiky (Regional geography of Slovak Republic). Prešov : Fac. of Human and Natur Sci., Univ. of Prešov, 1999, 256 p. ISBN 80-88722-41-1.
7. VILČEK, J. (1994): Model optimalizácie rastlinnej výroby (Model of the plant production optimalization). In.: Modely a modelovanie rastlinnej produkcie (zbor. referátov). Nitra : Slovak Agric. Univ., 1994, pp. 97–100.
8. VILČEK, J. (2000): Ekonomika pôd Slovenska (Economics of the soils in Slovakia). In: Zeměd. Ekon., vol. *46*, 2000, N. 3, pp. 113–118.
9. VILČEK, J., TORMA, S. (2004): Expertný a informačný model využívania poľnohospodárskych pôd – PEDOPT 2000 (Experts and informative model of agricultural land use – PEDOPT 2000). In: Acta Facult. stud. human. et naturae Universitatis Prešoviensis, vol. *42*, 2004 (suppl.), pp. 83–88. ISBN 80-8068-295-X.
10. VILČEK, J. (2005): Pedo-ecological categorization of Slovakia rural countryside with aspect to rye (*Secale cereale* L.) growing suitability. In: Agric. Econ. (Prague), vol. *51*, 2005, N. 4, pp. 169–174.
11. VILČEK, J. (2005): Kategorizácia poľnohospodárskej krajiny z hľadiska vhodnosti pre pestovanie pšenice ozimnej (Agricultural landscape categorization from the view of winter wheat growing suitability). In: Agriculture (Poľnohospodárstvo), vol. *51*, 2005, N. 10, pp. 505–512.
12. ZELENSKÝ, K. (1979): Typen der Landwirtchaftlichen Production in der Slowakei (Types of the agricultural production in Slovakia). In: Geogr. Čas., vol. *31*, 1979, N. 1, pp. 92–99.
13. ZELENSKÝ, K. (1981): Potenciál poľnohospodárskej krajiny SSR (Potential of the agricultural landscape in SSR). In: Hodnotenie produkčnej schopnosti pôd SSR. Košice : Dom techniky, 1981, pp. 25–35.

SÚHRN

Autori pri kategorizácii poľnohospodárskej krajiny do produkčných typov prioritne zohľadňovali pôdne, geografické i produkčné špecifiká regiónov Slovenska. Na podklade vektorových údajov o rozšírení pôdno-ekologických regiónov Slovenska, s využitím geografických informačných systémov, na základe reálnych produkčných parametrov jednotlivých okresov za roky 1997–2003, ako aj potenciálnych produkčných parametrov bonitovaných pôdno-ekologických jednotiek vyčlenili päť typov poľnohospodárskej krajiny. Ich zastúpenie na celkovej poľnohospodárskej pôde je nasledovné:

– Záhorská nížina – ľahké pôdy nížin (regozemný typ) – 3,6 %;
– Podunajská nížina – stredne ťažké pôdy nížin (černozemný typ) – 30,9 %;
– Východoslovenská nížina – ťažké pôdy nížin (fluvizemný typ) – 7,2 %;
– nízko a stredne položené kotliny (pseudoglejový typ) – 12,2 %;
– podhorské a horské oblasti (kambizemný typ) – 46,1 %.

Priaznivejšie pôdno-klimatické podmienky nížin a kotlín oproti výrobným podmienkam podhorských i horských regiónov sa zákonite odrážajú v rozdielnej intenzite i produkčných a ekonomických potenciáloch krajiny. Pre vyčlenené typy poľnohospodárskej krajiny bola vypracovaná charakteristika ich výrobných podmienok (klimatický región i pôdne vlastnosti – pôdny typ, zrnitosť, svahovitosť, skeletovitosť, produkčná kategória, hĺbka, bodová hodnota, potenciálna erózia), ďalej modely typových štruktúr osevu, ako aj modelovo stanovené možné produkčné i ekonomické parametre v rastlinnej výrobe.

Zdá sa, že zvolená typizácia poľnohospodárskej krajiny môže nahradiť doterajšie výrobné oblasti a ako taká môže byť vhodným nielen plánovacím merítkom, ale aj podkladom pre výkon a realizáciu poľnohospodárskej i pôdnej politiky štátu.

Kľúčové slová: poľnohospodárska krajina, kategorizácia, pedologická charakteristika, produkčné a ekonomické parametre