ANNALS OF THE POLISH ASSOCIATION OF AGRICULTURAL AND AGRIBUSINESS ECONOMISTS

received: 12.07.2019 Annals PAAAE • 2019 • Vol. XXI • No. (3)

acceptance: 08.08.2019 published: 20.09.2019 JEL codes: A23, J29

DOI: 10.5604/01.3001.0013.3381

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MARKET VALUATION OF GRADUATES WITH AGRICULTURAL DEGREES IN POLAND

Key words: higher-education institutions, agricultural education, remuneration

ABSTRACT. This paper is an analysis of the salary levels in a group of people who graduated, in 2014, from Polish higher-education institutions with agricultural degrees, i.e. degrees in agriculture, horticulture, forestry, veterinary science, zootechnics and fishery. This analysis is based on data from reports published as part of the Polish National System for Monitoring the Situation of Polish University Graduates. In a group of 1,953 graduates with agricultural degrees, the average gross salary in the fourth year after graduation amounted to PLN 3,416.85. This shows that the salary paid to such graduates after four years of work was lower than the average salary in Poland for all working year-2014 graduates with second-cycle degrees (PLN 3,765.30) and long-cycle master-level degrees (PLN 4,209.21). Moreover, the data shows that the highest average pay in the fourth year after graduation is earned by graduates with forestry degrees. It is worth noting that the results of the study are relative in nature. If other degrees, such as biotechnology, food technology or human nutrition, were included in the analysis, the classification would probably be different. This paper is by no means an exhaustive explanation of the topic and, given the limitations mentioned above, should be regarded as a contribution to further analyses.

INTRODUCTION

The expansion of the elite system of education into a system of mass education and, finally, a system of general education in Poland was sudden and lacked coordination [Kwiek 2017]. At the end of the Communist era¹, the gross schooling rate was 12.9% (in 1988). Three years later, the system became a system of mass education (15.5% in 1992) and, within the following 15 years, a system of general access to education (51.1% in 2007 and a year later).

The fast-growing supply of a workforce with degrees has caused the premium for achieving this level of education to decline (as indicated by the simplest market mechanism model, when the relative supply of workforce with university degrees (*ceteris paribus*) increases, the relative pay level for this workforce declines). Statistics from the Polish

The gross schooling rate is the relationship between the number of all schoolchildren at each level and the theoretical population of school age at each level (19-24 years for higher education, as of 31 December). This rate is expressed in percentage terms.

National Statistics Office (Polish: GUS) indicate that the average salary earned by people with university degrees was equal to 157% (in 2004) and 142% (in 2012) of the average gross salary in Poland [Pietrzak 2016]. Therefore, monitoring the career situation of Polish university graduates has been a priority for the Ministry of Science and Higher Education (Polish: MNiSW).

Information on the market valuation of graduates is based primarily on reports produced as part of the Polish National System for Monitoring the Situation of Polish University Graduates (Polish: ELA). These reports are based on information from the Polish Social Insurance Institution – PSII (Polish: ZUS) and the POL-on system, which means that anonymity of all graduates included in the analyses is guaranteed [Pietrzak 2018]. Furthermore, this information is not distorted by the imperfection of respondent memory, or the tendency to provide approximate figures or exaggerate.

So far, only a few analyses have been made in Poland, in this field. Among them, one can point out the studies of: Zając Tomasz, Mikołaj Jasiński and Marek Bożykowski [2017], or Marek Rocki [2017, 2018]. For example M. Rocki [2018] made an analysis of the remuneration received by the 2014 graduates of Polish schools conducting economic education on a tertiary level. The data indicate that the highest wages are obtained by graduates of economic schools (notably public). Moreover, economic courses offered by other types of schools, particularly general universities and technical or life science schools (with a few exceptions) do not match the needs of labour markets.

The direct purpose of this paper is to perform an analysis of statistics on salaries paid to year-2014 graduates from Polish higher education institutions with agricultural degrees. A salary paid to a graduate should be regarded as the employer's market valuation of the graduate. A higher average salary paid to graduates with degrees in a particular field of study indicates a higher valuation of the graduates' competence and preparation for work [Rocki 2018].

The analysis in this paper only covers graduates with degrees in classical fields of study in the area of agricultural science, forestry and veterinary science², i.e. agriculture, horticulture, forestry, veterinary science, zootechnics and fishery³. Moreover, the analysis does not include graduates who studied for their degrees on an extramural basis (because, quite naturally, most extramural students have jobs while at university), graduates with first-cycle degrees (as most of them continue their education by studying for second-cycle degrees) and graduates who went into self-employment after university (as it is difficult to determine their salaries).

The Polish regulation on the National Qualification Framework distinguishes between the following areas of education: 1) the humanities, 2) social sciences, 3) the sciences, 4) life sciences, 5) technical sciences, 6) medical, health and physical education studies, 7) the arts and 8) agricultural, forestry and veterinary sciences.

Graduates with degrees in biotechnology, food technology and human nutrition are not included in the analysis because the educational profile of such graduates is different from that of the graduates concerned.

MATERIAL AND RESEARCH METHODS

The information relied on in this manuscript is sourced from the Polish National System for Monitoring the Situation of Polish University Graduates. The information contained in the ELA system concerns people who graduated from university in 2014. The period covered by this analysis is four years from graduation.

The subjects in this analysis are Polish Social Insurance Institution – PSII (ZUS) – registered graduates with different second-cycle, full-time agricultural degrees from specific Polish universities⁴ with no employment and/or self-employment history before graduation.

The analysis used data on the average gross salary paid to graduates (PLN), from all sources, that allowed to prepare a ranking of agricultural degrees.

The data protection rules of the ELA system are such that the system will not produce reports on graduates from courses completed by fewer than 10 people (such courses included the course in agriculture provided by the Faculty of Environmental Management and Agriculture; and the course leading to a degree in fishery, provided by the Faculty of Food Science and Fishery, the West Pomeranian University of Technology in Szczecin). It is important to note that ZUS's (PSII) records "do not include civil-law contracts, contracts made outside Poland, work without a contract; information may not cover people insured with KRUS (Agricultural Social Insurance Fund)" [Rocki 2018]. Finally, PSII information does not include information on occupations or careers. Therefore, while ELA reports provide statistics on the time taken by graduates to find work, the risk of unemployment and on salaries, it is unknown whether the work done by graduates is related to their degrees.

Taking these limitations into account, the analysis covered a total of 1,953 year-2014 graduates from 31 faculties⁵ at a total of 10 universities (Table 1). The number of graduates with second-cycle (agricultural) degrees accounts for 1.1% of the total number of graduates with such degrees. Incidentally, the number of graduates in each field-of-study group ranges from 11 (horticulture, the Faculty of Environmental Management and Agriculture, West Pomeranian University of Technology) to 167 (veterinary science, Faculty of Veterinary Medicine, Warsaw University of Life Sciences). In the group of graduates under analysis, the average percentage of graduates registered by PSII is 90.6%. This means that this analysis includes a substantial majority of year-2014 graduates with agricultural degrees.

It needs to be mentioned that only 9 of the 33 degrees are offered by higher education institutions not classified by the Ministry of Science and Higher Education as agricultural/life science universities (4 such degrees are offered by the University of Warmia and Mazury in Olsztyn, 1 is offered by the University of Rzeszów, 2 by the Siedlce University of Natural Sciences and Humanities, and 2 by the West Pomeranian University of Technology in Szczecin).

In the case of veterinary science, the information only concerns graduates with long-cycle master-level degrees.

The Faculty of Life Sciences and Technology at the Wrocław University of Environmental and Life Sciences provides courses in agriculture as well as horticulture, while the Faculty of Animal Science at the University of Agriculture in Krakow offers courses in zootechnics and fishery.

Table 1. Courses, faculties and universities included in the analysis

Field of study (course)	University (faculty)	Number of graduates registered by PSII	Percentage of graduates registered by PSII
	University of Warmia and Mazury in Olsztyn (Faculty of Environmental Management and Agriculture)	25	80.0
	UTP University of Science and Technology in Bydgoszcz (Faculty of Agriculture and Biotechnology)	59	94.9
	University of Agriculture in Kraków (Faculty of Agriculture and Economics)	34	97.1
ıre	University of Rzeszów (Faculty of Biology and Agriculture)	36	88.9
Agriculture	Wrocław University of Environmental and Life Sciences (Faculty of Life Sciences and Technology)	49	77.6
Å	Poznań University of Life Sciences (Faculty of Agriculture and Bioengineering)	51	88.2
	University of Life Sciences in Lublin (Faculty of Agricultural Science)	24	91.7
	Siedlee University of Natural Sciences and Humanities (Faculty of Natural Sciences)	34	79.4
	Warsaw University of Life Sciences (Faculty of Agriculture and Biology)	22	81.8
	West Pomeranian University of Technology in Szczecin (Faculty of Environmental Management and Agriculture)	11	90.9
	University of Agriculture in Kraków (Faculty of Biotechnology and Horticulture)	93	93.5
Iture	Wrocław University of Environmental and Life Sciences (Faculty of Life Sciences and Technology)	32	93.8
Horticulture	Poznań University of Life Sciences (Faculty of Horticulture and Landscape Architecture)	82	85.4
11	University of Life Sciences in Lublin (Faculty of Horticulture and Landscape Architecture)	45	93.3
	Warsaw University of Life Sciences (Faculty of Horticulture, Biotechnology and Landscape Architecture)	43	88.4
Forestry	University of Agriculture in Kraków (Faculty of Forestry)	79	97.5
	Poznań University of Life Sciences (Faculty of Forestry)	56	98.2
	Warsaw University of Life Sciences (Faculty of Forestry)	87	94.3

Table 1. Cont.

Field of study (course)	University (faculty)	Number of graduates registered by PSII	Percentage of graduates registered by PSII
Veterinary science	University of Warmia and Mazury in Olsztyn (Faculty of Veterinary Medicine)	149	98.0
	Wrocław University of Environmental and Life Sciences (Faculty of Veterinary Science)	149	95.3
erinary	University of Life Sciences in Lublin (Faculty of Veterinary Science)	147	99.3
Vet	Warsaw University of Life Sciences (Faculty of Veterinary Science)	167	88.0
	West Pomeranian University of Technology (Faculty of Biotechnology and Animal Husbandry)	12	100.0
	University of Warmia and Mazury in Olsztyn (Faculty of Animal Bioengineering)	105	88.6
SS	UTP University of Science and Technology in Bydgoszcz (Faculty of Animal Science)	43	88.4
	University of Agriculture in Kraków (Faculty of Animal Science)	89	95.5
Zootechnics	Wrocław University of Environmental and Life Sciences (Faculty of Animal Science)	38	86.8
Zoc	Poznań University of Life Sciences (Faculty of Veterinary Medicine and Animal Science)	38	94.7
	University of Life Sciences in Lublin (Faculty of Animal Science)	38	86.8
	Siedlee University of Natural Sciences and Humanities (Faculty of Natural Sciences)	15	80.0
	Warsaw University of Life Sciences (Faculty of Animal Science)	46	89.1
Fishery	University of Warmia and Mazury in Olsztyn (Faculty of Environmental Science)	20	90.0
	University of Agriculture in Kraków (Faculty of Animal Science)	17	94.1
Minimur	· · · · · · · · · · · · · · · · · · ·	11	77.6
Average		59	90.6
Maximu	m	167	100

Source: own elaboration based on ELA information

RESULTS OF THE RESEARCH

In the group of 1,953 graduates with agricultural degrees, the average gross salary in the fourth year after graduation amounted to PLN 3,416.85. This shows that the salary paid to such graduates after four years of work was lower than the average salary in Poland for all working year-2014 graduates with second-cycle degrees (PLN 3,765.30) and long-cycle master-level degrees (PLN 4,209.21). At the same time, the average pay in the group of graduates included in the analysis accounted for 75.46% of the average salary in Poland⁶.

The number of graduates with degrees in the field of agriculture is $334^7(17.10\%)$ of all graduates with agricultural degrees, offered by 31 faculties, included in the analysis). In the fourth year after graduation, the average salary for these graduates was PLN 3,088.18 (90.38% of the average monthly salary paid to graduates with agricultural degrees, 82.02% of the average salary for all year-2014 graduates and 68.20% of the average salary in Poland) (Table 2).

Compared to the average salary in Poland, the highest salaries were paid, in the fourth year after graduation, to graduates with degrees from Warsaw University of Life Sciences (92.86% of the average salary and 123.05% of the average for working graduates with agricultural degrees), Poznań University of Life Sciences (88.34% and 117.06%, respectively) and from Wrocław University of Environmental and Life Sciences (87.41% and

Table 2. The rate of change of	the average monthly incor	ne earned by graduates with agri	icultural
degrees over a period of four y			

Field of study	Average monthly income earned by graduates from all sources [PLN]				Change of the average monthly income from	
(course)	in the first year after graduation	in the second year after graduation	in the third year after graduation	in the fourth year after graduation	all sources over a period of four years from graduation (the first year after graduation = 100)	
Agriculture	1,491.93	2,197.62	2,671.21	3,088.18	207	
Horticulture	1,500.59	1,997.83	2,368.94	2,585.58	172	
Forestry	2,759.33	3,406.78	4,419.32	4,858.66	176	
Veterinary science	1,396.90	2,431.14	3,083.95	3,585.22	257	
Zootechnics	1,738.03	2,393.93	2,854.31	3,370.67	194	
Fishery	1,776.02	2,264.01	2,501.42	3,012.77	170	
Average	1,777.13	2,448.55	2,983.19	3,416.85	196	

Source: own elaboration based on ELA information

⁶ According to statistics in the ELA reports, the figure is PLN 4,527.89.

The figures in the table only include graduates registered by the Polish Social Insurance Institution – PSII (Polish ZUS).

115.83%, respectively). As for the other graduates, the average salary was lower than the average for Poland and, in the case of Lublin University of Life Sciences, 66.50% of the average salary earned by working graduates with agricultural degrees.

Degrees in horticulture were offered by 6 faculties. In the fourth year after graduation, the average salary for these graduates was PLN 2,585.58 (75.67% of the average monthly salary paid to graduates with agricultural degrees, 68.67% of the average salary for all year-2014 graduates and 57.10% of the average salary in Poland).

In the case of horticulture, the differences in salary levels are smaller than in the case of graduates with degrees in agriculture. Compared to the average salary in Poland, the highest salaries were paid to graduates with degrees from Warsaw University of Life Sciences (71.02% of the average salary and 94.12% of the average for working graduates with agricultural degrees).

The number of graduates with degrees in forestry included in the analysis was 222. They accounted for 11.37% of all graduates with agricultural degrees included in the analysis. The average gross monthly salary paid to these graduates in the fourth year after graduation ranged from PLN 4,493.38 (graduates with degrees from the University of Agriculture in Kraków) to PLN 5,155.57 (Poznań University of Life Sciences). The average salary for forestry graduates accounted for 142.20% of the average salary for agricultural degrees. As a result, it was forestry graduates that earned the highest average salaries (in all the years under analysis).

Veterinary science is another degree offered by public universities of agriculture / life sciences. It is offered as a long-cycle, master-level course. The number of graduates with degrees in veterinary science was the largest group in the analysis. The total number of such graduates (year 2014) registered by PSII is 612 (31.34% of all graduates in the analysis). In the fourth year after graduation, the average gross salary for these graduates was PLN 3,585.22 (104.93% of the average monthly salary paid to graduates with agricultural degrees and 79.18% of the average salary in Poland). It is worth stressing that the average gross monthly salary increased at the fastest rate for veterinary science graduates (from PLN 1,396.90 in the first year after graduation) (Table 2).

Another agricultural degree is zootechnics. It is offered not only by universities of agriculture/life sciences, but also by the Faculty of Biotechnology and Animal Husbandry at the West Pomeranian University of Technology in Szczecin; the Faculty of Animal Bioengineering at the University of Warmia and Mazury in Olsztyn; and the Faculty of Natural Sciences at the Siedlee University of Natural Sciences and Humanities. The number of zootechnic graduates registered by PSII [Polish Social Insurance Institution] was 424 (21.71% of all graduates in the analysis). In the fourth year after graduation, the average gross salary for these graduates was PLN 3,370.67 (98.65% of the average monthly salary paid to graduates with agricultural degrees, 89.52% of the average salary for all year-2014 graduates and 74.44% of the average salary in Poland). The highest salaries in this group were paid to graduates from Poznań University of Life Sciences, and the lowest to graduates from Lublin University of Life Sciences.

The last of the degrees in the analysis is fishery. This degree is offered by three universities only, i.e. The University of Warmia and Mazury in Olsztyn, the University of Agriculture in Kraków and the West Pomeranian University of Technology in Szczecin.

At the West Pomeranian University of Technology in Szczecin, the number of year-2014 graduates was smaller than 10 and, therefore, an adequate ELA report was not available. As regards graduates with degrees in fishery, in the fourth year after graduation, the average gross salary for these graduates was PLN 3,012.77 (88.17% of the average monthly salary paid to graduates with agricultural degrees and 66.54% of the average salary in Poland). It should be noted that the average salary for these graduates grew at the slowest rate.

Table 3 shows a ranking of agricultural degrees in terms of the average gross salary paid to graduates (PLN), in the fourth year after graduation.

Table 3. Ranking of agricultural degrees in terms of the average gross salary paid to graduates, in the fourth year after graduation

Rank	Faculty	University	Average salary [PLN]	Percentage of the average salary for all Poland [%]
1	forestry	University of Life Sciences, Poznań	5,155.57	113.86
2	forestry	Warsaw University of Life Sciences	4,927.02	108.81
3	forestry	University of Agriculture in Kraków	4,493.38	99.24
4	zootechnics	Poznań University of Life Sciences	4,215.16	93.09
5	agriculture	Warsaw University of Life Sciences	4,204.41	92.86
6	agriculture	Poznań University of Life Sciences	3,999.87	88.34
7	agriculture	Wrocław University of Environmental and Life Sciences	3,957.70	87.41
8	veterinary science	University of Warmia and Mazury in Olsztyn	3,803.17	83.99
9	zootechnics	University of Warmia and Mazury in Olsztyn	3,747.26	82.76
10	fishery	University of Warmia and Mazury in Olsztyn	3,686.44	81.42
11	veterinary science	Warsaw University of Life Sciences	3,672.25	81.10
12	zootechnics	Wrocław University of Environmental and Life Sciences	3,611.20	79.75
13	veterinary science	University of Life Sciences in Lublin	3,586.06	79.20
14	zootechnics	Siedlce University of Natural Sciences and Humanities	3,387.27	74.81
15	zootechnics	Warsaw University of Life Sciences	3,367.60	74.37
16	veterinary science	Wrocław University of Environmental and Life Sciences	3,279.38	72.43
17	zootechnics	UTP University of Science and Technology in Bydgoszcz	3,264.61	72.10
18	horticulture	Warsaw University of Life Sciences	3,215.51	71.02

Table 3. Cont.

Rank	Faculty	University	Average salary [PLN]	Percentage of the average salary for all Poland [%]
19	agriculture	UTP University of Science and Technology in Bydgoszcz	3,176.17	70.15
20	zootechnics	University of Agriculture in Kraków	2,956.40	65.29
21	zootechnics	West Pomeranian University of Technology in Szczecin	2,918.95	64.47
22	zootechnics	University of Life Sciences in Lublin	2,867.59	63.33
23	agriculture	University of Agriculture in Kraków	2,864.02	63.25
24	agriculture	University of Rzeszów	2,749.38	60.72
25	horticulture	University of Agriculture in Kraków	2,667.03	58.90
26	horticulture	Poznań University of Life Sciences	2,623.19	57.93
27	horticulture	West Pomeranian University of Technology in Szczecin	2,372.88	52.41
28	fishery	University of Agriculture in Kraków	2,339.10	51.66
29	horticulture	Wrocław University of Environmental and Life Sciences	2,333.88	51.54
30	horticulture	University of Life Sciences in Lublin	2,301.00	50.82
31	agriculture	Siedlce University of Natural Sciences and Humanities	2,293.54	50.65
32	agriculture	University of Warmia and Mazury in Olsztyn	2,276.38	50.27
33	agriculture	University of Life Sciences in Lublin	2,272.19	50.18

Source: own elaboration based on ELA information

SUMMARY AND CONCLUSIONS

This paper is an analysis of the salary levels in a group of people who graduated, in 2014, from Polish higher-education institutions with agricultural degrees, i.e. degrees in agriculture, horticulture, forestry, veterinary science, zootechnics and fishery. In the fourth year after graduation, the highest salaries are paid to graduates with degrees in forestry and the lowest salaries are offered to graduates with degrees in agriculture from the Siedlee University of Natural Sciences and Humanities, the University of Warmia and Mazury in Olsztyn, and the University of Life Sciences in Lublin.

It can also be concluded that the agricultural degrees offered by universities are not the best response to employer requirements. The salaries earned by graduates of 31 faculties (of the 33 included in the analysis), in the fourth year after graduation, are lower than the average salary for Poland (the average pay in the group of graduates included in the analysis accounted for 75.46% of the average salary in Poland).

However, the weaknesses of the research methodology should not be ignored. Firstly, this research study was a pilot study (few studies so far have dealt with a market valuation of graduates with agricultural degrees, to the best knowledge of the author of this study). Secondly, the results of the study are relative in nature. If other degrees, such as biotechnology, food technology or human nutrition, were included in the analysis, the classification would probably be different. Thirdly, this analysis does not cover graduates (9.4% on average) not registered by PSII (not covered by PSII reports). These include people insured with KRUS (Agricultural Social Insurance Fund), those with contracts signed abroad and those without any work contracts. Fourthly, PSII reports do not include information on the occupations of the registered graduates. It is unknown whether the work done by graduates is related to their degrees.

In conclusion, the market valuation of graduates is an extremely important and, at the same time, broad research topic. This paper is by no means an exhaustive explanation of the topic and, given the limitations mentioned earlier, should rather be regarded as a contribution to further analyses.

BIBLIOGRAPHY

- ELA. 2019. Ogólnopolski system monitorowania ekonomicznych losów absolwentów szkół wyższych (Polish system of monitoring the fates of college graduates), https://ela.nauka.gov.pl/pl/infographicsm access: 05.07.2019.
- Kwiek Marek. 2017. Prywatyzacja i deprewatyzacja: od ekspansji (1990-2005) do implozji (2006-2025) systemu szkolnictwa wyższego w Polsce (Privatization and de-privatization: from expansion (1990–2005) to contraction (2006–2025) of the Polish higher education system). *Nauka* 1: 39-67.
- Pietrzak Piotr. 2016. Efektywność funkcjonowania publicznych szkół wyższych w Polsce (The efficiency of acting of public higher education institutions in Poland). Warszawa: Wydawnictwo SGGW..
- Pietrzak Piotr. 2018. Skuteczność kształcenia akademickiego w zakresie nauk rolniczych (Effectiveness of academic teaching in the field of agricultural sciences). *Roczniki Naukowe SERiA* XX (1): 104-110.
- Rocki Marek. 2017. Analiza samozatrudnienia wśród absolwentów polskich uczelni z roku 2014 (The analysis of self-employment among the year 2014 2014 graduates of Polish higher education institutions). *e-mentor* 4: 4-10.
- Rocki Marek. 2018. Rynkowa wycena absolwentów studiów ekonomicznych w Polsce (Market valuation of graduates of economic studies in Poland). *Ekonomista* 1: 89-102.
- Zając Tomasz, Mikołaj Jasiński, Marek Bożykowski. 2017. Does it pay to be a stem graduate? Evidence from the Polish Graduate Tracking System. Research & Occasional Paper Series: CSHE 13 (17): 1-9.

RYNKOWA WYCENA ABSOLWENTÓW KIERUNKÓW ROLNICZYCH W POLSCE

Słowa kluczowe: szkoły wyższe, kształcenie rolnicze, wynagrodzenie

ABSTRAKT

Celem artykułu jest przedstawienie analizy wynagrodzeń absolwentów z rocznika 2014 polskich uczelni prowadzących studia na kierunkach rolniczych, tj. rolnictwie, ogrodnictwie, leśnictwie, weterynarii, zootechnice i rybactwie. Analizę oparto na danych pochodzących z raportów publikowanych w ramach "Ogólnopolskiego systemu monitorowania losów absolwentów szkół wyższych". W analizowanej grupie 1953 absolwentów badanych kierunków rolniczych, średnie wynagrodzenie brutto, w czwartym roku po uzyskaniu dyplomu, wyniosło 3416,85 zł. Oznacza to, że absolwenci kierunków rolniczych uzyskali po czterech latach pracy wynagrodzenia niższe niż średnia krajowa dla wszystkich pracujących absolwentów rocznika 2014 studiów drugiego stopnia (3765,30 zł) i jednolitych studiów magisterskich (4209,21 zł). Ponadto najwyższe przeciętne wynagrodzenia, w czwartym roku po zdobyciu dyplomu, uzyskali absolwenci leśnictwa. Należy mieć na uwadze, że uzyskane wyniki mają charakter względny. Włączenie do analizy innych kierunków np. biotechnologii czy technologii żywności i żywienia człowieka, prawdopodobnie zmieniłoby uzyskaną klasyfikację. Tym samym artykuł w żadnej mierze nie wyczerpuje podjętej problematyki, a ze względu na wskazane ograniczenia powinien być raczej traktowany, jako przyczynek do dalszych analiz z tego zakresu.

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