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Potatoes in southern Poland: spread and impact on demography to the mid-19th century

It must be said that, second only to baptism, potatoes are the greatest blessing conferred by heaven. We owe America more gratitude for them than for the precious metals of gold and silver, the fatal implements of greed.

Julian Ursyn Niemcewicz, 1812¹

Potatoes (...) have been the plague of our land. Whom else shall we credit with the idleness of our peasant? Whom else do we have to thank for the spoiling and demoralization of our common folk, as these are the words that need to be used? Potatoes. Was it not a few years ago that not only our poor peasant, but also the butler, the wagon driver, the cook, the farmhand, the forester were not drunkards? And how did that come about? Because of vodka. And what is vodka made from? From potatoes. Why is it that our peasant has been so idle, so lazy, so reluctant to work, and then so eager to fight, to steal, to give in to vice? Because he has lived a cheap life, on potatoes alone, which not only can do without the addition of grease but even need no salt.

Henryk Brodzki, 1850²

1. Current status of studies on the spread of potato culture in Poland

These two quotations sum up briefly the history of the development of potato cultivation in Polish lands and its impact on society till the mid-19th century. The emotions evident in both statements go to show how important the plant became to all the layers of society over a short period of time. Nevertheless, the amount of Polish scholarly literature on the history of potato cultivation is grossly disproportionate to the role of Poland as one of the world's largest producers of this crop to this day. We still know little about the process of introducing the cultivation of potatoes, apart from the undisputed fact that it became widespread in Polish lands relatively late. A problem for research into this issue is posed by the specific

¹ J. U. Niemcewicz, *Podróże historyczne po ziemiach polskich*, Paryż [Paris] 1858, p. 103; Julian Ursyn Niemcewicz (1757–1841) was a writer and statesman in the Polish-Lithuanian Commonwealth and later in the Congress Kingdom of Poland.

² 'Uwagi wynikłe z obecnego położenia naszej gospodarki', *Pamiętnik gospodarski*, Year 2 (1850): 38, p. 149; Henryk Brodzki was the owner of the Jaślany landed estate in Galicia (former Tarnów County).

circumstances of Polish political history. Namely, the key period for the growing significance of the potato crop coincided with the three partitions of Poland by the neighbouring imperial states (1772–1795). Consequently, each part of the former Polish state continued to develop individually in terms of political, social and economic systems. One can therefore speak, also with regard to agriculture, of four separate histories of the Polish lands.³ So far, the history of the introduction and spread of potato culture has been researched and described for selected areas only: central Poland and Wielkopolska (Poznan region).⁴ Galicia, i.e. the southern part, is still a blank in this regard.⁵ Apart from the geographic gaps, also a number of economic and social aspects of the introduction of the new crop have not been duly studied. Particularly acute is the lack of a new synthesis of the history of agriculture which would, as a minimum, aggregate and organize dispersed information pertinent to the subject matter discussed below. The present study sets out to fill these gaps at least partly. In the first instance, a review of the rudimentary literature on the subject will be undertaken, followed by an analysis of the prospects for further research based on routinely-generated sources. Nevertheless, individual pieces of information about the beginnings of potato culture dispersed in various types of scholarly papers or published source materials will be compiled as well, and complemented with the conclusions drawn from my own probing research covering selected handwritten sources dating back to the late 18th and early 19th centuries. Finally, an attempt is made to capture the development of potato cultivation and its impact on the demographic relations on the micro scale, also based on archival sources.

General publications on the history of agriculture or peasantry have not paid much attention to the spread of potato culture in Galicia. Stefan Inglot wrote: ‘Towards the end of the 18th century, the cultivation of potatoes played hardly any role in Galicia; it was considered a garden vegetable, planted on small patches of land near cottages. The field cultivation of

³ The western lands became part of the Prussian state (subsequently the German Empire); the southern lands were added to the Austrian Habsburg Monarchy (subsequently Austro-Hungary); the central lands formed the Napoleonic Duchy of Warsaw at first, and later the Kingdom of Poland (Congress Kingdom) with the Russian Romanovs as the monarchs, and finally were included in the Russian Empire; the eastern lands (Lithuania, Belarus, and the Ukraine) became an integral part of Russia at the moment of partitions.

⁴ B. Baranowski, *Początki i rozpowszechnienie uprawy ziemniaków na ziemiach środkowej Polski*, Łódź 1960; T. Czwojdrak, *Uprawa i przerób przemysłowy ziemniaków w Wielkopolsce do 1939 roku*, Poznań 1965.

⁵ The term ‘southern Poland’ used in the title of this paper refers roughly to that part of Galicia, a province in the Austrian Habsburg Monarchy, which is now part of Poland. This area (which had been the southwest part of Poland prior to the partitions) was taken over by Austria in 1772 and underwent several territorial changes by 1918. Generally, it included the lands to the south of the Vistula, extending to the upper Dniester and Bug basins, with Lwów (Lemberg/Lvov/Lviv) as its capital. In 1809, Zamość and its surrounding areas ceased to be a part of it and then Krakow and its surrounding areas were added in 1846. The province was divided, more or less formally, into Western (ethnically Polish) and Eastern (Ukrainian and Polish) Galicia; that division roughly corresponded to the present-day division of the former Galicia between Poland and Ukraine.

potatoes had its beginnings in the 19th century. Proper potato culture began after the abolition of serfdom and grant of land ownership to peasants [1848; author's addition], and then in the 1860s the potato began to supersede grain crops.⁶ *Zarys historii gospodarstwa wiejskiego w Polsce* (An Outline History of Rural Farming in Poland) entirely omits the significance of Galicia in its description of the beginnings of potato cultivation in its garden phase.⁷ Witold Pruski points out that it was not only in gardens that potatoes were planted in Galicia in the late 18th century but the development of the culture was not evenly spread, and they continued to be primarily a garden crop still in the first decade of the 19th century. In his opinion, the expansion of the potato into the crop fields started after 1815.⁸

A point of reference for all detailed research is still the statement made by the author of the diaries written in the late 18th century, Father Jędrzej Kitowicz, who dates the spread of potato culture to the reign of the King of Poland August III Wettin (who was the Elector of Saxony at the same time), i.e. the period 1733–1763.⁹ The new crop was reputedly advocated and disseminated by the administrators of Crown lands supplying the king's household, who were Germans. This opinion has not been verified with regard to the Crown lands in the south of Poland. Without a doubt, during the same period, the cultivation of potatoes became widespread in the neighbouring Silesia, since 1742 part of the Kingdom of Prussia, under the rule of Frederick II at the time. In 1772, upon the First Partition of Poland, the southern part of the realm was taken over by Austria, forming a new province called Galicia. Despite the initiation of positive social and economic reforms, after 1790 Galicia remained a marginalized, impoverished and backward province within the Habsburg Monarchy. This may explain the belief that the progress of transformations in agriculture was slower here than in other Polish lands.¹⁰ It is true that the new government advocated new crops, in particular in the 1780s, under Emperor Joseph II, but little is known of the effectiveness of that

⁶ S. Inglot, 'Historia społeczno-gospodarcza chłopów polskich w zaborze austriackim' in: *Historia chłopów polskich*, vol. 2, S. Inglot (ed.), Warszawa 1972, p. 175.

⁷ *Zarys historii gospodarstwa wiejskiego w Polsce*, vol. 2, B. Baranowski, J. Topolski (eds), Warszawa 1964, pp. 160, 429, 430.

⁸ W. Pruski, *Hodowla zwierząt gospodarskich w Galicji w latach 1772-1918*, vol. 1. Period 1772-1881, Wrocław 1975, pp. 35, 36.

⁹ The earliest facts associated with the beginnings of potato culture, even the most credible ones, such as the story of potatoes being brought into Poland by King John III Sobieski from Vienna in 1683, following the Turkish Campaign, and their dissemination by Warsaw gardeners, are of marginal significance as it would be difficult to refer to any actual economic and social significance of the potato in any period prior to the mid-18th century; cf. Baranowski, *Początki...*, pp. 16, 17.

¹⁰ Baranowski, *Początki...*, pp. 30, 31.

campaign.¹¹ Possibly a greater effect was caused by the influx of settlers invited from western Germany (Rhineland, Palatinate) into the land estates formerly owned by the Polish state or the Crown lands, as they were well acquainted with potatoes, but this development has not been duly researched yet.¹²

With regard to the subsequent fortunes of potato cultivation, in particular its expansion into arable lands, a convincing explanation is provided by the author of a publication on the development of the spirit industry in Galicia. He points to the period of Napoleonic wars, when the province became Europe's source of provisions, such as grain, cattle and horses. Given the high prices of grain, Galicia's landed gentry switched to an extensive method of farming, converting all available wastelands into cropland to grow more grain crops. The boom ended with a sudden drop in prices after 1817. Under these circumstances, what saved the landed gentry from ruin was the increased use of their land for the cultivation of potato and the mass production of vodka, based primarily on this crop as raw material.¹³

2. Possible use of routinely-generated sources

Recapitulating, it may be concluded that the knowledge of the beginnings and spread of potato culture in what is now southeast Poland is quite limited and does not provide a basis for a full description of that process till the mid-19th century.¹⁴ The research community is partly justified by the fact that the first half of the 19th century was a period of discouragement and inactivity in Galicia's landed gentry circles and there were practically no local institutions interested in gathering data on agriculture, while most documents created by the state administration are now outside the borders of Poland (Lviv, Vienna).¹⁵ What is certain is that two stages in the development of potato culture can be identified for Galicia (as, indeed, for other lands): (1) grown as a garden crop, (2) cultivated as a field crop. The divide between the two stages was probably marked by the year 1817/1818, when Galicia's grain market declined and much of the gentry switched to the production of vodka from potatoes.

¹¹ W. Tokarz, *Galicya w początkach ery józefińskiej w świetle ankiety urzędowej z roku 1783*, Kraków 1909, p. 247; Baranowski, *Początki...*, p. 48.

¹² T. Rutowski, 'Przemysł gorzelniany w Galicyi. Historia i statystyka', *Rocznik Statystyki Przemysłu i Handlu Krajowego*, Year 1 (1885): 3, p. XVII; H. Lepucki, *Działalność kolonizacyjna Marii Teresy i Józefa II w Galicji 1772-1790*, Lwów 1938, pp. 71, 156, 157.

¹³ Rutowski, 'Przemysł...', pp. XIV, XV.

¹⁴ The basic information about potato production during the period from the 1860s to World War I is compiled in: P. Franaszek, *Produkcja roślinna w Galicji doby autonomicznej*, Kraków 1995 and P. Franaszek, *Informator statystyczny do dziejów społeczno-gospodarczych Galicji: rolnictwo w dobie autonomii. Part 1, Produkcja roślinna*, Kraków 1992.

¹⁵ In Galicia, agricultural societies (in Krakow and Lwów/Lviv) were not formed until the mid-1840s. Prior to 1990, access to foreign archives was either very difficult (Vienna) or nearly impossible (Lviv) for Polish historians.

What is particularly challenging – as opposed to other lands of partitioned Poland – is the lack of early statistics referring to the size of crop areas or yield figures. The Austrian statistical publication *Tafeln zur statistik...* provides the earliest potato harvest figures for Galicia in 1841. These oldest figures are certainly highly approximate, and in some yearbooks they were merely copied from previous years; nonetheless, they allow for comparisons with other ‘Austrian’ provinces of the monarchy, as shown in Table 1. It is interesting to compare Galicia with the Congress Kingdom of Poland, which was larger by half, where the production of potatoes in the 1840s was at least similar, if not slightly smaller.¹⁶ It bears noting, however, that agricultural statistics had a longer tradition in the Kingdom of Poland.

Table 1. Potato yields in selected provinces of the Austrian Empire in the 1840s

	arable land	1841		1843		1845		1846		1847	
	ha	tn	tn/100 ha	tn	tn/100 ha	tn	tn/100 ha	tn	tn/100 ha	tn	tn/100 ha
Lower Austria	805,648	195,519	24.3	194,850	24.2	166,198	20.6	86,248	10.7	68,732	8.5
Upper Austria	489,508	104,290	21.3	101,989	20.8	104,255	21.3	49,249	10.1	49,249	10.1
Styria	418,611	141,530	33.8	147,027	35.1	140,761	33.6	94,316	22.5	86,690	20.7
Carinthia & Carniola	273,950	99,503	36.3	105,159	38.4	105,632	38.6	100,663	36.7	100,663	36.7
Bohemia	2,466,828	975,846	39.6	694,909	28.2	719,501	29.2	611,999	24.8	544,841	22.1
Moravia & Silesia	1,359,694	626,060	46.0	624,970	46.0	626,168	46.1	430,500	31.7	430,500	31.7
Galicia & Bukovina	3,339,754	1,269,040	38.0	1,268,809	38.0	1,269,016	38.0	1,111,428	33.3	1,269,016	38.0

Sources: *Tafeln zur Statistik der österreichische Monarchie für das Jahr...*

Although their reliability, particularly in the case of Galicia, is more than limited, the figures in Table 1 are valuable because they give us an idea of the harvested volume of potatoes before and during the crisis caused by the potato blight. Judging by the absolute numbers, Galicia, together with Bukovina, were the largest producer of potatoes in the whole Habsburg Monarchy as early as the early 1840s. If, however, we take into account the ratio of harvested crop to arable land, initially Galicia usually occupied the 3rd place, after Moravia assessed jointly with Silesia and Styria or Carinthia with Carniola. Analysis of the table leads to further reflections. Such a significant position of Galicia may be explicable if we assume that the tradition of cultivating this crop dated back to the final decades of the 18th century. Secondly, the table may be indicating that Galicia was plagued by the potato blight to a rather low

¹⁶ The 1840s figures are more varied for the Kingdom of Poland than for Galicia; in 1845, a good harvest year, the harvested crop reached c. 1,375,000 metric tonnes, and subsequently declined; cf. Baranowski, *Początki...*, p. 61.

degree. The crisis caused by the potato blight in the latter half of the 1840s somewhat modified the hierarchy of producers, as shown in Table 2.

Tab. 2. Potato yields in selected provinces of the Austrian Empire in 1851–1865

	arable land	1851		1854		1857		1859		1865	
	ha	tn	tn/100 ha								
Lower Austria	803,808	159,900	19.9	172,200	21.4	117,637	14.6	146,567	18.2	191,208	23.8
Upper Austria	423,668	59,778	14.1	98,400	23.2	94,464	22.3	122,410	28.9	57,167	13.5
Styria	418,619	140,761	33.6	147,600	35.3	115,128	27.5	97,170	23.2	55,218	13.2
Carinthia	136,518	15,744	11.5	17,220	12.6	18,598	13.6	18,991	13.9	24,142	17.7
Carniola	136,040	104,550	76.9	98,400	72.3	10,824	8.0	11,119	8.2	17,926	13.2
Bohemia	2,237,859	808,946	36.1	984,000	44.0	1,003,680	44.9	950,593	42.5	691,800	30.9
Moravia	1,128,683	362,112	32.1	602,208	53.4	650,375	57.6	635,516	56.3	503,778	44.6
Silesia	239,667	90,774	37.9	98,400	41.1	194,930	81.3	184,697	77.1	124,150	51.8
Galicia	3,194,621	1,399,740	43.8	1,426,800	44.7	1,212,337	37.9	1,203,235	37.7	1,191,968	37.3
Bukovina	206,531	15,744	7.6	15,744	7.6	17,318	8.4	18,794	9.1	32,734	15.8

Sources: *Tafeln zur Statistik der österreichische Monarchie...*

The figures for that period are probably closer to actual facts than those in the previous one but the general picture has not changed. Globally, Galicia (assessed without Bukovina here) was still the largest potato producer, while its harvest volume per 100 hectares of arable land put the province in the 3rd–4th place. Nevertheless, it would be difficult to point to any significant growth in this production; the numbers are actually indicative of a minor stagnation (crisis of large landed estates after the abolition of serfdom?). It is noteworthy that, starting in the 1850s, the northern provinces were the top producers of potatoes in the Austrian Empire (Bohemia, Moravia, Silesia, and Galicia).

When looking for more information about the spread of potato culture in the lands of southern Poland (western Galicia), one cannot count on useful ‘classical’ statistical sources, or any other routinely generated sources that could be exploited after adequate processing. While a lot of important material for the study of the history of agriculture in this part of Poland is provided by the land cadastre prepared in 1785–1787 (known as the Josephian Cadastre, Ger. *Josephinische Kataster*, Pol. *metryka józefińska*), it makes no mention of potatoes because its focus is on field crops. To assess the productivity of arable land, the four basic grain crops are used (wheat, rye, barley, and oats), while the rest of the crops sown in the fields at the time (peas, Tartary buckwheat, proso millet, hemp, and flax) was treated as one of basic ones (e.g. Tartary buckwheat as barley). Most of the gardening production was counted as harvest of hay from a good meadow. The cadastre makes no mention of potatoes, which does not mean

that the crop was entirely unknown but rather points to its perception as a typical garden plant in the mid-1780s.¹⁷

The model used for the assessment of southern Sweden's agricultural production in the 18th and the first half of the 19th century demonstrates the usefulness of various records of tithes paid to the church, despite the fact that tithe was no longer payable on potatoes in Sweden from 1808 onwards.¹⁸ In the case of Polish lands, tithe records are very rare. For instance the listings for 1778 and 1803 (two) do not include potatoes.¹⁹ The introduction of a new crop could entail complications with respect to tithe entitlements. A problem of this type occurred in the town of Wojnicz, whose residents started growing tobacco before 1762. Under Polish laws going back to medieval times, tithe was payable on crops which required the use of the plough, i.e. generally field crops. This explains the absence of any information about problems with tithe with respect to potatoes before 1772, when they were planted in gardens only. After 1772, the Austrian authorities did not regulate the issue of tithe payable on this new plant, which is why the old rules of the Polish law were applied. The legal literature of the time argued that, when potatoes had become a field crop, and additionally replaced grain crops in many of their functions (e.g. as the raw material for the production of alcohol), there was no longer any reason to exempt them from tithe.²⁰ The matter was thus probably not a very contentious one, although this calls for a more detailed study.²¹

The market prices are published for the two largest cities of southern Poland: Lwów and Krakow. With reference to the former city, potato prices were listed starting in 1804, and in the case of Krakow from 1810 onwards.²² Materials referring to smaller urban areas are mostly handwritten, except for the prices charged during weekly markets and annual fairs in the town of Wojnicz, which are published. In a surviving set of listings from the late 18th and early 19th centuries, potato prices are given for December 1804, incidentally listing a larger

¹⁷ J. Fierich, *Kultury rolnicze, zmianowania i zbiory w katastrze józefińskim 1785/87*, w: *Roczniki Dziejów Społecznych i Gospodarczych*, Year 12, 1950, pp. 35-38, 53, 54.

¹⁸ M. Olsson, P. Svensson, 'Agricultural growth and institutions: Sweden 1700–1860', *European Review of Economic History*, 14, pp. 275–304.

¹⁹ Tithe measured in sheaves was usually paid in wheat, rye, barley, oats, peas, proso millet, and ordinary or Tartary buckwheat; cf. Mielec Parish Archive, *Regestr dziesięciny wytycznej snopowej z Woli Mieleckiej Anno 1778*; Rzochów Parish Archive, *Opis wszelkich realności y praw kościoła Zochowskiego*; ANK, dep. ms 308, p. 15 (Radomyśl Wielki).

²⁰ A. Haimberger, 'Ueber den Zehent in Galizien', *Zeitschrift für österreichische Rechtsgelehrsamkeit und politische Gesetzkunde*, Jahrgang 1826, Bd 2, pp. 236, 237.

²¹ A summary record of tithes in the village of Łysakówek in 1831 includes potatoes; cf. Przeclaw Parish Archive, *Inventarium ecclesiae parochialis in Przeclaw*, p. 38.

²² S. Hoszowski, *Ceny we Lwowie w latach 1701-1914*. Lwów 1934, p. 61; M. Górkiewicz, *Ceny w Krakowie w latach 1796-1914*, Poznań 1950, p. 104.

selection of products (19).²³ Generally, the price listings made reference only to those types of produce which made it possible to assess the productivity of the various crops identified for fiscal purposes (the four main grain crops, hay, and timber).

3. *The development of potato culture, based on local sources*

The current status of the research on the beginnings of potato culture, and indeed other crops introduced at the time, would not justify forgoing the use of the dispersed resources of printed information, and even archival sources. Sources that have already been published (e.g. rural court books), research works on the economic activity of the landed gentry's estates, or – very popular recently – monographs on local communities in southern Poland provide a certain amount of information on the subject. Still, it is not a topic commonly discussed and seldom has much attention been given to it. What is possibly the earliest mention of potatoes, grown in a peasant's garden, comes from 1767, with reference to the village of Jazowsko on the Dunajec river.²⁴ Interesting information is available for the estate of Poręba Wielka owned by the Wodzicki family, where potatoes were grown as vegetables as early as the 1770s, not only on the owner's land, but also in peasant farmsteads, in amounts sufficient to spare some for sale. As early as 1780, attempts at distilling vodka from them were made.²⁵ More records from the same period provide information about potato crops in the Żywiec area and in an entirely different part of Galicia, near Zamość.²⁶ One of the authors associates the spread of potato culture in the Oświęcim area with a famine in Silesia and the adjacent Polish lands in 1771– 1772. Nevertheless, both in 1776 and around 1790, potatoes were still garden vegetables in the landed gentry's estates.²⁷ The authors of a study of the economic regionalization of Malopolska in the second half of the 18th century point out that the cultivation of potatoes was still in its initial phase at the time, but they go on to quote several

²³ *Rachunki miasta Wojnicza*, Vol. 3. *Rachunki 1660–1812*, publ. A. Jaworska, J. Szymański, p. 108. The prices of the basic grain crops compiled from municipal records and manor accounts were used by Helena Madurowicz-Urbańska in her study: *Ceny zboża w zachodniej Małopolsce w drugiej połowie XVIII wieku*, Warszawa 1963.

²⁴ *Księgi sądowe wiejskie klucza jazowskiego 1663–1808*, S. Grodziski (ed.), Wrocław 1967, p. 202 (trial for theft of onions and potatoes).

²⁵ I. Rychlikowa, *Klucz wielkoporębski Wodzickich w drugiej połowie XVIII wieku*, Wrocław 1960, pp. 103, 104; in 1798, vodka was also made from potatoes in Ślemień near Żywiec; cf. *Inwentarze dóbr żywieckich z XVIII wieku zawierające obciążenia feudalne ich ludności*, F. Lenczewski (ed.), Żywiec 1980, p. 189.

²⁶ Baranowski, *Początki...*, p. 19; in the domain held in fee tail (*fideicommissum*) by the Zamoyski family (Pol. *Ordynacja Zamojska*) the first potatoes were planted in the gardens in 1770; cf. J. Kasperk, *Gospodarka folwarczna ordynacji zamojskiej w drugiej połowie XVIII w.*, Warszawa 1972, p. 73.

²⁷ J. Stanek, ..., pp. 105, 106, 114, 120.

early mentions of potatoes grown by peasants (1770s and 1780s).²⁸ Around 1785, potatoes were reputedly known in the hilly and alpine areas in the southeast part of the territory under review.²⁹ They did not, however, become field crops until the late 1820s or early 1830s. In the estate of the Counts of Tarnów (owned by the Sanguszkos), information about potatoes being planted in peasants' farms dates back to 1786, and in the manor garden to 1791.³⁰

The amount of published information referring to the early cultivation of potatoes in the areas adjacent to Galicia in the north, which remained part of Poland until 1795, is also scarce. A bulky report of the survey of Crown estates in 1789 in those areas contains only two mentions of the subject (Będzin near the border with Prussian Silesia and Bodaczów to the north of Krakow). Notably, one of them makes reference to field crops (Bodaczów).³¹ In the state-owned estates in the Kielce region, potatoes were first grown (probably as field crops) in the second decade of the 19th century.³² The beginnings of potato culture in the landed gentry's estates are also dated to the end of the 18th century, and the potato boom at the 1820s, in connection with the growth of the spirit industry.³³ Nevertheless, we encounter such information as that recorded for the estate of Tenczynek (just outside the border of Galicia, to the west of Krakow), stating that attempts at planting potatoes were made in 1817 there but proved unsuccessful, and there is no more mention of them at least until 1824.³⁴ Some contrast to these fragmentary records is offered by the statistical data for the period. In 1810/1811, the area of arable land occupied by potato crops in the Krakow Department of the Duchy of Warsaw can be assessed as c. 2%, while the counties to the west and north of Krakow were leaders in terms of intensity of cultivation of the plant. It is noteworthy that, in the central Polish lands (the Duchy of Warsaw), nearly 80% of potato crops were grown in peasants' farms, compared for example to a mere 34% for wheat.³⁵

²⁸ H. Madurowicz, A. Podraza, *Regiony gospodarcze Małopolski zachodniej w drugiej połowie XVIII wieku*, Wrocław 1958, p. 77.

²⁹ Tokarz, ; *Życie gospodarcze ziemi sanockiej od XVI do XIX w.*, red. R. Lipelt, Sanok 2004, p. 56.

³⁰ A. Niedojadło, *Hrabstwo tarnowskie w XVII i XVIII wieku. Dzieje społeczno-gospodarcze*, Tarnów 2011, pp. 87, 141.

³¹ Lustracja województwa krakowskiego 1789, Part 1: powiat krakowski, proszowicki i ksiąski, A. Falniowska-Gradowska, I. Rychlikowa (eds.), Wrocław 1962, pp. 16, 64.

³² Piwek, ..., pp. 104, 105;

³³ A. Zarychta-Wójcicka, 'Aktywność gospodarza Dembińskich herbu Rawicz w dobrach ziemskich woj. sandomierskiego i krakowskiego w XVIII i na pocz. XIX wieku', in: *Studia nad ziemiaństwem w XIX i XX wieku*, A. Koprukoniak, Z. Gołębiowska (eds.), Lublin 2008, p. 20; J. Piwek, *Działalność gospodarcza Małachowskich w XVIII i XIX wieku*, Kielce 1999, pp. 108, 109 (potatoes were introduced to field cultivation, initially in small amounts, in 1811–1812).

³⁴ K. Zamorski, *Folwark i wieś. Gospodarka dworska i społeczność chłopska Tenczynka w latach 1705-1845*, Wrocław 1987, pp. 44-49.

³⁵ Baranowski, *Początki...*, s. 41-46, 49.

Consequently, the only feasible course of action is a search across various types of archival sources. Therefore, for the purposes of this paper, a probing research was conducted in the files of the gentry courts in central Galicia. These include, inter alia, inventories of the landed gentry's estates, but also damage records. The primary focus was on the late 1770s and early 1780s. An important reservation is that the materials available in the files of the gentry courts have considerable limitations. First of all, they are incidental in nature (as they were generated only on such occasions as a grant of leasehold or the inheritance of an estate), which is why they will not provide information on a full-year basis for a significant percentage of the landed estates in existence at the time. It would also be difficult to obtain regular data covering a longer period of time for a specific estate. Another major difficulty is that the inventories seldom contain detailed descriptions of vegetable gardens, and figures referring to the size of areas used for specific garden crops are even rarer.

Generally, it can be concluded that potatoes grown as garden vegetables first came to some prominence in the latter half of the 1770s and that situation did not change in the following decade. In the 1770s, another new crop was more frequently grown on manor fields – rapeseed.³⁶ The exact accounts of the estate farm in Żabno for 1772 and 1773 list some garden vegetables in the income section (carrots, cabbage, and turnips) and then other ones under expenses (onions, garlic, and cucumbers) but potatoes feature in neither.³⁷ The relatively precise records of the damage done by the floods of 1774 to the manor estates and peasant farms in one of the major domains do not mention potatoes (making only reference to cabbage, carrots, or vegetables in general).³⁸ There is no reference to them, either, in the inventory of the estate in the town of Sędziszów; its vegetable garden contained cabbages, peas, hemp and proso millet.³⁹ Some records leave room for multiple interpretations, e.g. those for the estate farm in Żelichów where, in the early spring of 1776, an entry referring to the garden states that ‘carrots, beets and other vegetables, as well as hems are to be sown in it.’⁴⁰ And then a 1779 description of a peasant farmstead in the village of Pleśna mentions potatoes among other garden crops, occupying an area comparable to those used for carrots,

³⁶ ANK (National Archive in Cracow), TP (*Terrestria Pilsnensia*) 107, nr 107 (1774, Gorzyce); nr 147 (1774, Podleszany); 109, nr 81 (1776, Żelichów)

³⁷ ANK, TP 106a, nr 286.

³⁸ ANK, TP 107, nr 231 (Dębica estate of duke Antoni Radziwiłł)

³⁹ ANK, TP 107, nr 234

⁴⁰ ANK, TP 109, nr 81.

cabbages, or beets.⁴¹ More references to potatoes are also made with regard to their cultivation in gardens.⁴²

To ensure an ability to show the changes occurring over a longer period of time (till the mid-19th century), the research focused on various types of sources pertinent to the small town of Przecław and the areas immediately surrounding it.⁴³ The chronology of potato culture as outlined above is corroborated in these sources. In 1777, a few residents of the town were accused of stealing potatoes from an estate farm in the near village of Rzemień (part of someone else's domain). From another record referring to a trial for theft, in 1789, we learn that there was not only widespread cultivation of potatoes in Przecław proper (grown by townspeople and the parish priest) but also in the nearby villages (Czarna near Tarnów). The case file also indicates that maize was known in the area, which is interesting in the light of the fact that the cultivation of that crop was more common in the eastern part of Galicia. In 1805, the requirement to provide food supplies to the armed forces was imposed on every citizen of Przecław, including a quota of 3.5 kg of potatoes, among other produce. Finally, in 1809 the town complained about the damage wrought by the Russian forces, mentioning potatoes and other vegetables.⁴⁴ According to the 1831 inventory of the estate left by a deceased Przecław weaver, no less than 20% of his small plot of farmland (c. 2.3 hectares) was occupied by potatoes.⁴⁵

Equally successful was the development of potato culture in the Przecław and Rzemień estate farms, from the late 18th century the domains of Count Kajetan Rey (deceased 1822). Contracts executed in the various parts of the domain in 1807 to grant rights under the propination privilege, i.e. the exclusive right to produce vodka and sell it in taverns, provided for the delivery of about 200 tonnes of potatoes to each distillery.⁴⁶ This trend did not change in the 1820s. According to the inventory lists prepared in 1822 and 1829, most estate farms had distilleries with equipment required to make vodka from potatoes. By 1822, in estate farms which grew potatoes, their average ratio to total crops had reached almost 20%. In 1829, in the Rzemień estate farm, 15 tonnes of potatoes were planted, accounting for 44% of

⁴¹ ANK, TP 106a, nr 346.

⁴² ANK, TP 113, nr 139 (Gnojnica, 1780), nr 212 (Koszyce Wielkie, 1780)

⁴³ The town of Przecław was one of the smallest in the area, with a population of 720 in 1786 (1150 in 1880), predominantly Christian (as opposed to many Galician towns with a Jewish majority), involved mainly in shoemaking, weaving, dealing in pigs, and also farming as an auxiliary occupation; the town and the nearby villages were part of the domain owned in the 18th and the 19th centuries by the noble family of Rey.

⁴⁴ ANK, dep. ms, ...

⁴⁵ They were grown in 16 *zagon*s (narrow belts of land) out of the total 79; cf. ANK, dep. ms 455, f. 109.

⁴⁶ Przecław Parish Archive, *Record of contracts* (Nagoszyn, Ocieka).

all sown and planted crops.⁴⁷ Between 1822 and 1829, Count Dominik Rey had a Hermbstaedt still installed in the distillery at the estate farm in Podole.⁴⁸ The development of vodka production between 1822 and 1829 is evidenced by the replacement of small vats for rinsing potatoes with larger barrels, and of beaters with a special mixer.⁴⁹ We may assume that the potato blight of the mid-1840s did not wreak much damage in or around Przeclaw. We have no direct accounts from the estates in that area but instead only a relation from a region not far from there.⁵⁰

1. *Impact of the spread of potato culture on human mortality*

It would be difficult today to negate the favourable impact of the spread of potato culture on the reduction of the scale of famine episodes, which was already noted by the contemporaries who could observe it in their lifetimes. Although we notice today a number of other factors that contributed to the decline in mortality rates in some parts of Europe still in the 18th century, the overall improvement in nutrition, including the enrichment of the diet by the inclusion of the potato, was a major one.⁵¹ Consequently, changes in the mortality rates can be an indication of the development of the crops. Unfortunately, such observations in Polish lands are difficult due to the fact that the records of deaths kept prior to the 1770s were of a rather poor quality. When recordkeeping was taken over by the Austrian authorities, far-reaching changes were introduced between 1776 and 1784 in the documentation of the natural movement of population, which, however, had the side effect of many parishes missing birth and death records from that turbulent period. The town of Przeclaw has been selected for a micro-scale observation, as the development of potato culture in it is documented starting in the 1780s. As regards the Przeclaw parish, no books containing entries of deaths have been preserved which would refer to any year before 1786. The mortality rate has been assessed for the town together with the village of Błonie, which was also referred to as Przeclaw's suburb to the early 19th century.⁵²

⁴⁷ ANK, FNT (*Forum Nobilium Tarnoviense*) ..., pp. 269, 373, 374, 399, 445, 533, 566, 637, 642, 759.

⁴⁸ ANK, FNT ... , p. 269; Sigismund Friedrich Hermbstaedt was a German chemist.

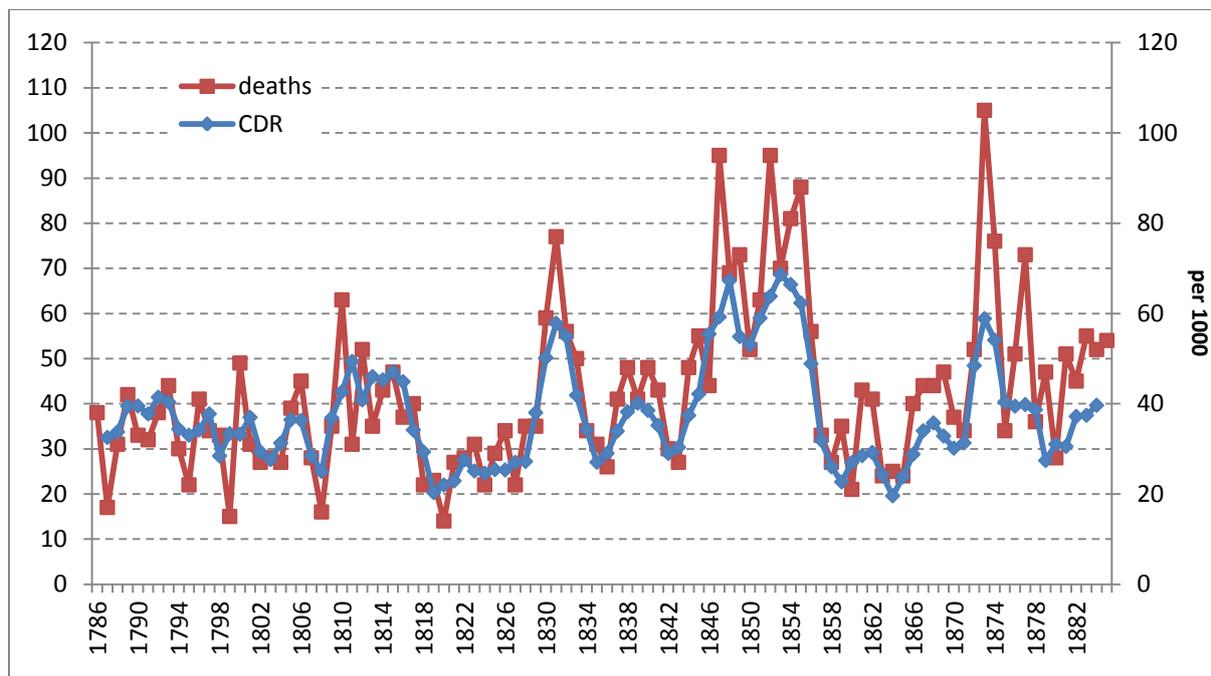
⁴⁹ ANK, FNT ..., s. 269

⁵⁰ The owner of the Podleszany estate, some 10 km away from Przeclaw, Michał Toczyski wrote in 1849: 'I am still fortunate enough that the potato blight has not reached my land'; *Mielec. Studia i materiały z dziejów miasta i regionu*, Vol. 3, F. Kiryk (ed.), Mielec 1994, p. 543.

⁵¹ Cf. J. D. Post, *Famine, Mortality, and Epidemic Disease in the Process of Modernization*, *The Economic History Review*, 29/1, 1976, pp. 14-37; S. J. Kunitz, *Speculations on the European Mortality Decline*, *The Economic History Review*, 36/3, 1983, pp. 349-364; M. Kilbourne Matossian, *Mold Poisoning and Population Growth in England and France, 1750-1850*, *The Journal of Economic History*, Vol. 44/3, 1984, pp. 669-686.

⁵² A 3-year moving average for deaths in the Christian populations of the town of Przeclaw and the village of Błonie (suburb) has been used. The population figures come from military and general censuses (1857, 1869,

Fig. 1. Number of deaths and the death rate for Przeclaw and Blonie in 1786–1885



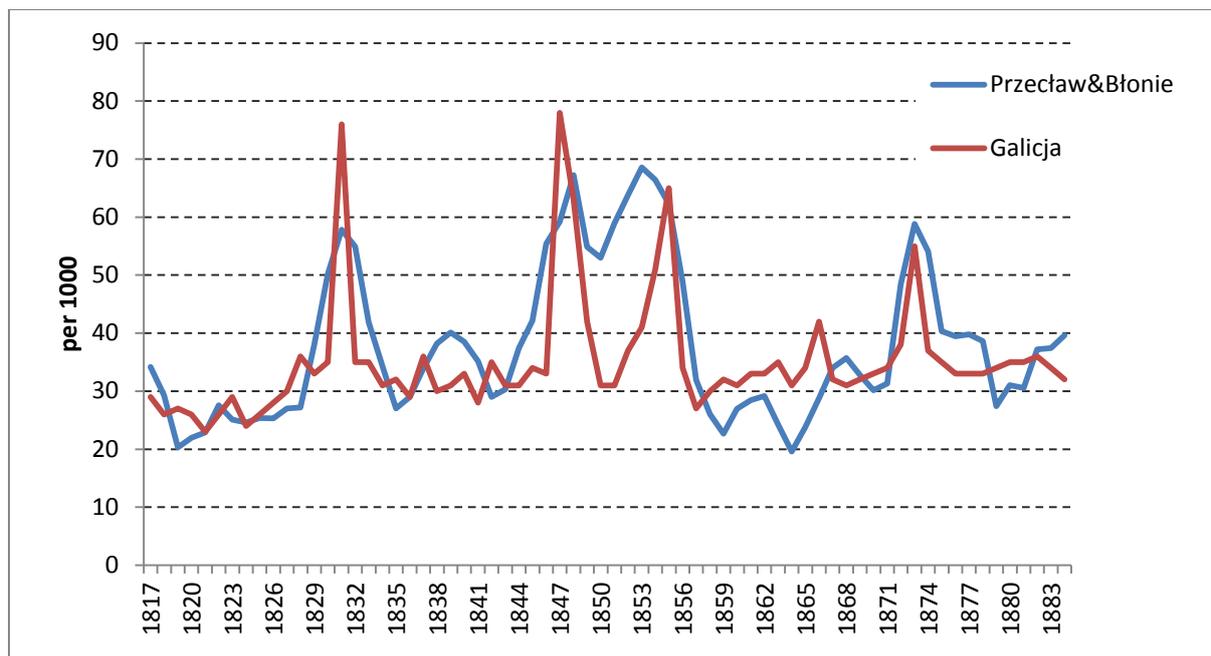
Sources:

According to these tentative and highly approximate calculations, until 1809 the mortality rate showed a downward trend, sometimes dropping below 30 per thousand. And then during the decade of 1819 through 1828 (the period when the field cultivation of potatoes became widespread), the mortality rate probably oscillated around 25 per thousand. Between 1846 and 1855, the time of poor harvests of potatoes (but also of grain crops) and two bouts of cholera in the town, the mortality rate noticeably exceeded 50 per thousand.⁵³ In the following decade, mortality went down again, reaching a level below 30 per thousand. Towards the end of the period under review (late 1870s and early 1880s), the rate fluctuated between 30 and 40 per thousand. It is impossible to compare these figures with any earlier period not only for Przeclaw (due to lack of parish books), but also for other towns in southern Poland, mostly because there is no basis whatsoever to assess the population figures. It is, however, possible to compare the rates calculated for Przeclaw with the figures for Galicia as a whole, although not until 1817.⁵⁴

1880), with interpolation of data for missing years. Until 1812, the parish records were kept jointly for Przeclaw and Blonia, and also the conscription censuses from that time usually provide population figures jointly for both the town and the village.

⁵³ J. Szewczuk *Kronika klęsk elementarnych w Galicji w latach 1772-1848*, Lwów 1939, p. 182-

⁵⁴ B. Wojtun, *Zmiany rodności i umieralności Polski centralnej w XIX i XX w.*, in: *Przeszłość Demograficzna Polski*, vol. 14:1983, pp. 151, 152.

Fig. 2. Mortality rates in Przecław and Galicia 1817–1884

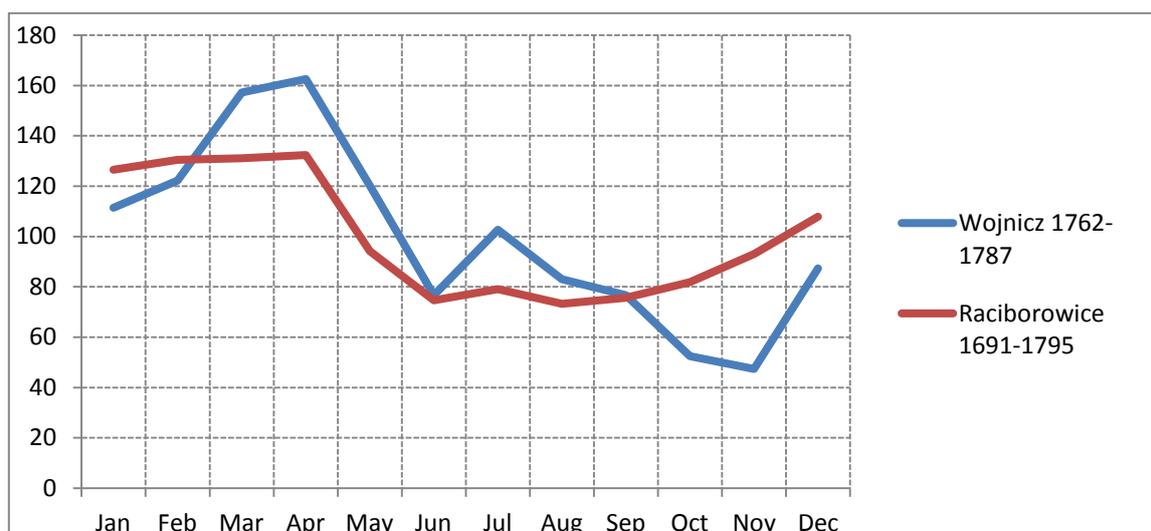
Sources:

They show a considerable convergence, the only major difference referring to the years 1858–1866, when the mortality rate is lower for Przecław. Perhaps a feasible explanation could be that the onset of the potato blight was less severe in the Przecław area, and did not lead to a significant reduction in the acreage used for the crop or in the harvest yield.

The assumption that the growing cultivation of potatoes in Przecław, which started towards the end of the 18th century, had an impact on the mortality of people older than 1 year, reducing it, in particular by mitigating the recurrent bouts of famine and contributing to the general strengthening of people's organisms, calls for an analysis of the seasonality of deaths during that period. The results of research for the 18th-century Poland are quite straightforward. The greatest intensification of deaths was recorded during winter months and in early spring. In a number of cases, the seasonality of deaths was distributed as shown in Fig. 3, pointing to the critical significance of the hungry gap (March and April). It is noteworthy that a similar distribution, with mortality peaking in April, was even recorded for Warsaw in the years 1764–1790.⁵⁵

⁵⁵ C. Kukło, *Demografia Rzeczypospolitej przedrozbiorowej*, Warszawa 2009, pp. 410, 411.

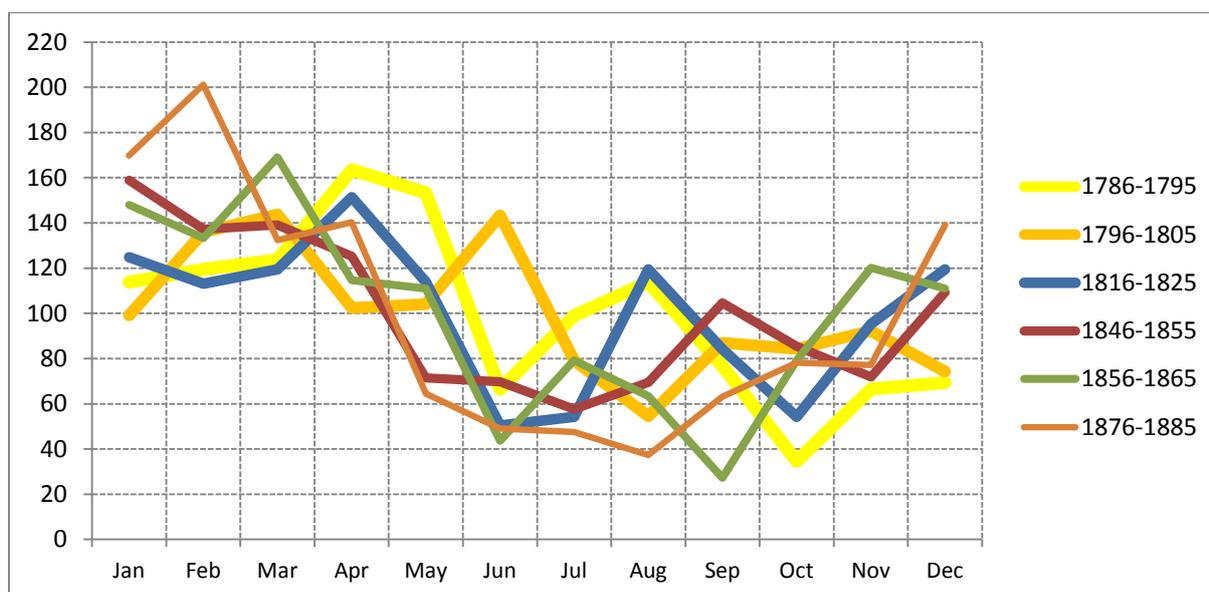
Fig. 3. Seasonality of deaths in the 18th century Poland



Sources: P. Miodunka, *Wojnicz...*; M. Wyżga, *Parafia Raciborowice od XVI do końca XVIII wieku: studium o społeczności lokalnej*, Kraków 2011

It seems feasible to assume that, given the low productivity in agriculture at the time, even an average harvest of grain crops meant that a lot of people would have no food in early spring. The introduction of potatoes to cultivation and their inclusion in the diet must have contributed to the reduction of mortality caused by famine or a greater susceptibility to disease occasioned by malnutrition. This, of course, did not mean a complete elimination of the food shortage factor because a period of poor harvests affected all the crops, as exemplified by the mid-1840s.

Fig. 4. Seasonality of deaths in Przeclaw in 1786–1885, in selected 10-year periods



The seasonal distribution of deaths in Przeclaw and Błonie for individuals older than 1 year has been analysed in 10-year periods. Although the results are not entirely unambiguous, the April peak in mortality is the most pronounced for the period of 1786 through 1795, corresponding to the beginnings of potato culture in the area. Interestingly, during the period from 1816 to 1825 (representing the expansion of the potato into the fields), April was also the critical month. In other 10-year periods reviewed, the mortality peak moved to the winter months (January–March), even in the critical decade from 1846 to 1855. This may be indicative of a certain improvement in nutrition, which in turn brought the climate factor to the fore as the most significant one for the seasonality of deaths.

2. *Closing remarks*

As confirmed by the written sources, potatoes had become a widespread garden crop in southern Poland by the 1770s. How that process was achieved remains an open question. Obviously, some owners of large landed estates were aware of how successful the potatoes had been in western Europe. Local merchants who travelled to Silesia and eastern German lands had ample opportunities for practical observations and purchasing cuttings or seedlings. Nevertheless, it is highly probable that potatoes were gladly accepted as a crop in peasant farms. On 1 April 1811, i.e. still before planting, a peasant of average means in the village of Wola Kosnowa had nearly 200 kg of potatoes, much less than the amount of oats that he still held, but the same amount as his remaining supply of rye grain, and more than he had wheat or barley. In 1831, potatoes accounted for $\frac{1}{4}$ of the volume of all harvested crops in the listing of tithe collected by Przeclaw's parish priest from the village of Łysakówek.⁵⁶

It cannot, however, be ruled out that the growing popularity of potatoes was not evenly spread, as they were introduced in isolated areas in various parts of southern Poland. By way of example, it is notable that, in 1803, potatoes are not mentioned among the crops grown on a land owned by a priest from the town of Radomyśl, even though e.g. cabbage is mentioned.⁵⁷ In the first decade of the 19th century at the latest, potatoes came to be planted in the fields, and increasingly they were intended for the production of vodka. The process continued to intensify by the 1840s, making Galicia one of the largest producers of potatoes. It appears that not so much the potato blight as the political and social transformations (propagation of temperance, abolition of serfdom and grant of land ownership to peasants) led to the decline

⁵⁶ Przeclaw Parish Archive, *Inventarium ecclesiae parochialis in Przeclaw*, p. 38.

⁵⁷ ANK, dep. ms 308, p. 26.

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in the growth rates of potato harvests, first of all in the noble estates. It seems that the fast-paced development of potato culture in the first half of the 19th century must have left a trace in the changing characteristics of the mortality of people who had survived infancy. Indeed, extended periods of low mortality rates can be observed both on a micro scale (Przeclaw) and on a macro scale (Galicia). Moreover, the seasonality of deaths observed in a small town shows certain changes whose general direction is towards moving the mortality peak from early spring to winter.