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The process of drying results in the occurrence of unfavourable physiochemical changes in the dried material. The choice of not only an optimal method but also the proper conditions of drying allows to obtain of dried material having features similar to the raw material. The objective of the dissertation was to determine the influence of the method of drying and conditions of the process on the process kinetics, energy requirements and properties of dried material. The grinding ability of dried material was also evaluated. Furthermore, the influence of two-steps drying, convective with microwave-convective drying, on the material properties was determined. Winter garlic (cv. Harnaś) was used as the raw material. The garlic was subjected to the process of freeze-drying, vacuum, convective as well as microwave-convective drying, at three levels of temperature (20°C, 40°C and 60°C). The two-steps drying was also performed, consisting of combining the convection with microwave-convective drying in four different varieties, and with temperature 60°C. Six models, which are the most frequently used in the literature, were proposed in order to describe the course of drying. For all of the methods and conditions of drying, the following parameters were determined: drying energy requirements, the granulometric distribution of particle size and average particle size of the dried material after the fragmentation, the grinding energy requirements, grinding energy index as well as the values of the colour coordinates (L*, a*, b*) of the dried material. The colour saturation, hue angle and the browning index were also evaluated. Moreover, the total content of essential oil and its quantitative composition was also performed. The results revealed that during onestage drying, the changes of the moisture ratio in the function of drying time were the best described by Midilli model. The microwave-convective process, with the power of 200 W microwaves, was characterised as the shortest one, while the convection drying was found as the longest. Analysis of the four methods of twosteps drying, showed that the usage of the preliminary convective drying, and then microwave-convective one, results in the shortest drying time, regardless of the changes of the drying methods as well as the power of microwave radiation. As the temperature of drying increased the specific drying energy decreased for all used drying methods. The microwave-convective drying at 60°C and with 200 W was characterised by the lowest drying energy requirements, contrary to the freezedrying with the temperature of a heating plates 20°C, which the highest energy consumption was found. The specific energy of two-steps drying was slightly higher than the drying energy of the microwave-convective method. The other methods of two-steps drying were characterised by higher energy consumption. As for the freeze-drying, while applying all of the temperatures, the values of the colour coordinates were very similar to the raw material. In the case of vacuum drying, the changes of colour were not very substantial. As the microwave power of radiation increased, during one-step and two steps drying the deterioration of the colour coordinates was observed. Using freeze-drying, the composition of essential oil was the most similar to the composition of the raw material. The essential oil derived from the microwave-convective drying was the most differ from the composition of oil from the raw material. On the other hand, the essential oil derived from two-steps drying method was characterised as having more similar composition to the raw material than the oil obtained from microwave-convective drying. The dried material having the finest particles after grinding was obtained after freeze-drying and vacuum drying. The granulometric distribution of ground dried material obtained after convective and microwave-convective drying was substantially different from the particle size distribution of dried material from the freeze-drying and vacuum drying. The using of the two-steps drying resulted in the obtainment of finer ground dried material with the low mass fraction of coarse particles than that dried and ground material obtained after convective drying. The results revealed that the highest quality of dried material with the best grinding pattern can be obtained after freeze-drying and with temperature of heating plates not exceed 40°C. However, this process in energy-consuming. From the other hand the shortest drying time and the lowest drying energy requirements were obtained when the microwave-convective method is applied (60°C, 200 W). Moreover, it can be concluded that two-steps drying is better than one-step convective or microwave-convective drying due to a couple of valid reasons. Most importantly, the dried material was obtained with slightly higher energy requirements and drying time, but with better colour characteristics, and with the composition of the essential oil similar to the raw material.