White mustard (*Sinapis alba* L.) of canola quality a rich source of phytosterols

Iwona Bartkowiak-Broda[1)], Magdalena Rudzinska[2)], Teresa Pietka[1)], Krzysztof Michalski[1)]

[1)] Plant Breeding and Acclimatization Institute-National Research Institute, Department of Genetics and Breeding of Oilseed Crops, 60-479 Poznan, Strzeszynska 36, Poland

[2)] University of Life Sciences, Faculty of Food Science and Nutrition, Poznan, Poland

In Plant Breeding and Acclimatization Institute white mustard was converted into valuable oil-protein crop by creating varieties without antinutritional compounds: erucic acid in oil and glucosinolates in seeds. Low erucic cv. Bamberka was licenced in 2006 and double low cv. Warta in 2011. Oil from the seeds of both cultivars has a composition similar to that of oil from double low rapeseed, it is useful for all purposes: for food, fodder and in technical use. In dietary its value is even better because of higher content of phytosterols.

In recent years consumers pay attention to the importance of nutraceuticals. One of the most researched group of nutraceuticals are phytosterols especially because they display cholesterol lowering (fraction LDL) properties .

The aim of investigations is the search of phytosterol content in oil of white mustard breeding lines for the development the variety with very high content of these compounds.

The content of phytosterols: brassicasterol, campesterol, campestanol, sitosterol, Δ5-avenasterol, Δ7-avenasterol, was evaluated in seed oil of 144 white mustard lines (harvested in two growing seasons) using gas chromatography. The highest variability was found in the case of campesterol and sitosterol. The investigated lines displayed very high variability in the total content of phytosterols. Correlation between results from two growing seasons indicate stable expression of genes responsible for the content of these compounds.

The population of investigated lines is a source of genotypes which can be used in breeding of double low mustard varieties with very high content of phytosterols in oil.

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