



# New advanced clones of red raspberry (*Rubus idaeus* L.) bred at the National Institute of Horticultural Research in Skierniewice, Poland

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## 1. Objectives

Breeding program on obtaining new innovative red raspberry genotypes at the National Institute of Horticultural Research (InHort) in Skierniewice, Poland, has been carried out for nearly 10 years. During this period, hundreds of crosses were made and thousands of F<sub>1</sub> seedlings were produced. Based on multiannual evaluation of breeding material in the field trials, several valuable and advanced clones with innovative features were selected.



## 2. Material and methods

- ❖ Productive value of five red raspberry clones (M-14037E, M-14345E, M-14035E, M-14026E and M-14104E) was evaluated in 2019-2023 at InHort, Skierniewice, Central Poland.
- ❖ The clones were compared to the standard cultivars (their parental forms): ‘Canby’, ‘Laszka’, ‘Polana’, ‘Polka’, ‘Sokolica’ and ‘Veten’.
- ❖ The plant material of the selected genotypes and standard cultivars was produced using the in vitro method.
- ❖ Plants in the field trial were planted in the randomized block design (3 replications, 3 plants per plot) at the density of 3.0 m x 0.6 m.
- ❖ The type of plant fruiting (primocane, florican, primocane-floricane), fruit productivity, fruit size and attractiveness were assessed using the ranking scale 1 – 9, where 1 – means the lowest value of the trait, while 9 – the highest value of the trait.



### 3. Results and discussions

#### Characteristics of red raspberry clones evaluated in the experiment (Skierniewice, Pomological Orchard, *average values for 2019-2023*)

Clone number	Pedigree	Type of plant fruiting	Productivity (1-9**)	Fruit attractiveness (1-9**)	Fruit size (1-9**)	Additional information
M-14026E	Laszka × Polana	PF	6,5	5,3	5,9	
M-14035E	Polka × Vetén	PF	9,0	5,7	6,2	spineless
M-14037E	Canby × Sokolica	PF	7,5	5,2	5,8	little spines
M-14104E	Canby × Polana	PF	9,0	6,0	6,5	
M-14345E	Canby × Polana	PF	5,5	6,2	6,8	delicate spines
Canby	reference	F	7,0	4,5	4,8	little spines
Laszka	reference	F	3,0	6,2	6,7	
Polana	reference	P	6,0	5,2	5,5	
Polka	reference	P	6,0	6,3	6,3	
Sokolica	reference	F	7,5	6,2	6,5	
Vetén	reference	F	6,0	5,5	5,7	

Explanation: \* – Type of fruiting: P – primocane, F – floricanne, PF – Primocane-floricanne

\*\* – Ranking scale 1 – 9: 1 – the lowest value of the trait, 9 – the highest value of the trait

M-14026E



M-14037E



M-14345E



## 4. Conclusions and perspectives

- ❖ **M-14037E** ('Skierka') was submitted for the registration procedure of the Research Centre for Cultivar Testing in December 2022. Its yield is very high, both on one-year-old and two-year-old canes. Fruits are large to very large, conical in shape, intensely red and glossy, attractive, very firm and tasty, resistant to mechanical damage during harvesting and transport, and little susceptible to rotting.
- ❖ **M-14345E** is very productive, both on one-year-old and two-year-old canes. Fruits are large and very large, very attractive with a uniform, spherical-oval shape and light red color with a slight gloss. The canes are almost completely spineless (single spines appear only at the base of the canes).
- ❖ **M-14035E** is high yielding, it bears fruit on one-year-old and two-year-old canes. Fruits are large and medium-sized, attractive - light red in color, strong gloss and oval in shape. It has no spines on its canes, which greatly facilitates the plant maintaining and fruit harvesting.
- ❖ **M-14026E** is very productive, both on one-year-old and two-year-old canes. Fruits are large and medium-sized, intensely red and glossy, in the shape of an elongated cone, very attractive in appearance.
- ❖ **M-14104E** produces exceptionally abundant crops on both one-year-old and two-year-old canes. The fruits are large and medium-sized, conical, intensely red with a slight gloss, attractive in appearance.

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