



## **Določitev ras izolatov bakterije *Ralstonia solanacearum* povzročiteljice rjave gnilobe krompirja**

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*Ralstonia solanacearum* (Smith 1896) Yabuuchi *et al.* 1996 je karantenska bakterija, ki povzroča rjavo gnilobo krompirja in bakterijsko venenje mnogih drugih rastlin. Uvrščena je na seznam IAII karantenskih organizmov.

Seve bakterije *Ralstonia solanacearum* lahko razdelimo na pet ras glede na primarno okuženega gostitelja ali pet biovarjev glede na uporabo določenih sladkorjev in sladkornih alkoholov.

V Evropi povzročajo rjavo gnilobo krompirja predvsem sevi rase 3. Rasa 3 ustreza biovarju II. Ta rasa okužuje krompir, paradižnik, jajčevac in nekatere razširjene plevele in je prilagojena nižjim temperaturam. Predvsem v rastlinjakih so možni tudi sevi rase 1 ki imajo širši krog gostiteljev in so prilagojeni višjim temperaturam. Sevi rase 1 ustrezajo sevom biovarjev 1, 3 ali 4.

Rasa izolata lahko vpliva na fitosanitarne ukrepe in je zato pomemben del določitve bakterije *Ralstonia solanacearum*.

Raso lahko določimo s testom hipersenzitivne reakcije na tobaku, določanjem uporabe nekaterih sladkorjev in sladkornih alkoholov (laktoze, maltoze, celobioze, manitola, sorbitola in dulcitol) ali analizo profila maščobnih kislin.

Za določanje rase izolatov bakterije *Ralstonia solanacearum* izoliranih iz krompirja različnega izvora med leti 1997 in 2002 smo uporabili test hipersenzitivne reakcije na tobaku in določanje uporabe nekaterih sladkorjev in sladkornih alkoholov. Vsi testirani izolati spadajo v raso 3, biovar II.

### **ABSTRACT**

#### **Determination of races of *Ralstonia solanacearum* isolates causing brown rot in potatoes**

*Ralstonia solanacearum* (Smith 1896) Yabuuchi *et al.* 1996 is a quarantine bacterium causing brown rot of potatoes and bacterial wilt in many other hosts. It is listed on IA II quarantine list.

Strains of *Ralstonia solanacearum* have been informally grouped into five races on the basis of the host primarily affected or five biovars on the basis of the catabolism of certain sugars and sugar alcohols.

Strains most frequently isolated from potatoes in Europe correspond to race 3 which is equivalent to biovar II. This race infects potato, tomato, aubergine and some commonly present weeds and is adapted to lower temperatures. The presence of race 1 which has a wide host range and is adapted to higher temperatures is also possible especially in green house facilities. Race 1 corresponds to biovars 1, 3 or 4.

Determination of race may influence phytosanitary measures taken and is therefore an important part of testing on *Ralstonia solanacearum*.

Races of *Ralstonia solanacearum* can be determined using hypersensitivity reaction test in tobacco, utilisation of hexose alcohols and sugars (lactose, maltose, cellobiose, mannitol, sorbitol and dulcitol) or analysis of fatty acids profile.

We have used hypersensitivity reaction test in tobacco and utilisation of hexose alcohols and sugars to determine races of *Ralstonia solanacearum* isolated from potatoes of different origine from 1997 to 2002. All tested isolates belonged to race 3, biovar II.