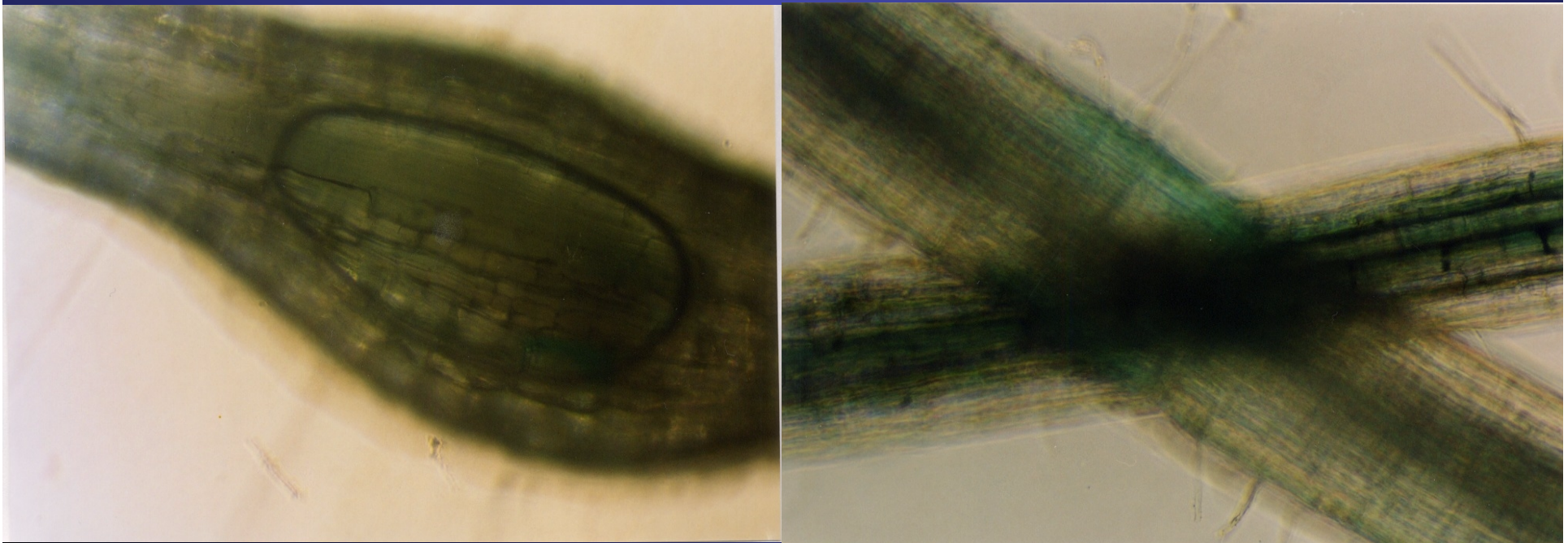


Left: Nematodes infested
Right: non-infested



Transgenic *N. benthamiana* and resistance

系統	PCR ^a	Southern ^b	RT-PCR ^c	抵抗性 ^d
<i>N. benthamiana</i>	N	control	N	S
IK-1	N	1	N	S
IK-2	N	1	N	S
IK-3	P	1	P	MR
IK-4	P	3	P	HR
IK-6	P	2	P	R
IK-7	N	0	--	S
IK-11	P	1	P	MR
IK-12	P	1	P	MR
IK-14	P	2	P	R
IK-15	P	3	P	HR
IK-16	N	0	--	MS
IK-17	N	0	--	S
IK-18	N	0	--	MS
IK-19	N	0	--	S
IK-20	N	0	--	S
IK-24	P	1	N	MS

Transgenic potato evaluation

- Resistance evaluation to the root-knot nematodes (RKN) on the transgenic potato lines derived from a susceptible potato cultivar “Desiree”
- Their association with molecular evaluation on PCR and RT-PCR, and the estimated copy number of the transgene that confers the resistance to RKN by Southern analyses.

Line	PCR ^a	Southern ^b	RT-PCR ^c	Resistance ^d
Desiree	N	control	N	S
RKN-2	P	2	P	R
RKN-15	P	2	P	R
RKN-16	P	3	P	HR
RKN-29	P	3	P	R
RKN-34	P	2	P	R
RKN-36	P	3	P	HR
RKN-37	P	2	P	MR
RKN-38	P	2	P	R
RKN-39	P	2	P	R
RKN-40	P	3	P	HR
RKN-101	N	I	N	S
RKN-103	P	1	P	MR
RKN-104	P	1	P	S
RKN-105	N	1	P	MR
RKN-106	N	I	N	S
RKN-107	P	2	P	R
RKN-108	P	2	P	MR
RKN-110	P	1	P	MS
RKN-111	P	3	P	HR
RKN-135	P	3	P	R
Atzimba (Control)	N	--	N	S

New Findings in Potatoes

- 1) Temperature independent and resistance functioned over 35 C similar to Me_3 and Me_4 of peppers;
- 2) Copy number as well as genomic position effect associated with the level of expression; and
- 3) There may be quantitative effect of the gene fragment to the level of the resistance.
- 4) Designate as *Rmi*

Acknowledgements

- Dr Sami Doganlar, Izmir Institute of Technology, Turkey for mapping
- Calbee Potato Inc., for providing breeding lines
- JSPS-RFTF for financial sponsor
- Biotech. Division, Toyota Motor Corp., for comparison with sweetpotato research
- Base resistance evaluation information from KNW works at CIP