

**5 October 2017**

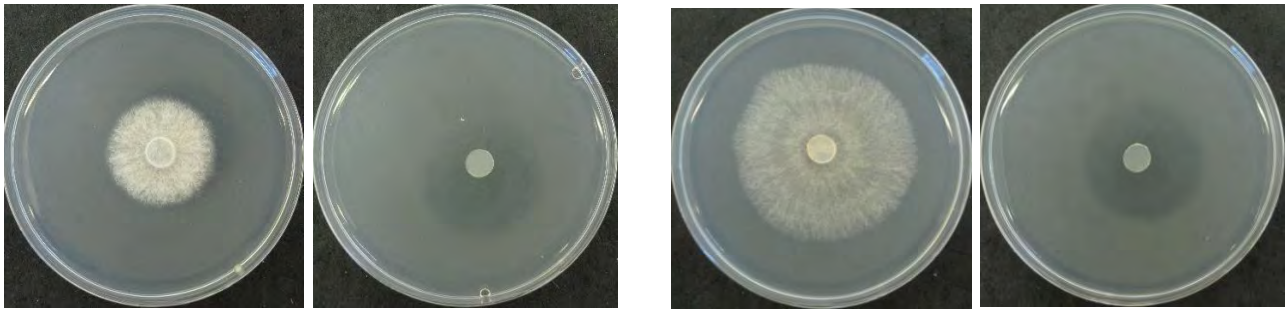
**Re: Agar Plate Testing of Zumsil™ Against Strains of *Rhizoctonia solani***

An amended potato dextrose agar (PDA) plate test was conducted to evaluate the effect of Zumsil™ (diluted to 1:100) on radial mycelial growth of seven *Rhizoctonia solani* strains sourced from a variety of economically important host plants including kale, ryegrass and potato. The Zumsil™ was added to the PDA when molten (53°C) prior to pouring the plates. Colonies of each *R. solani* strain were previously grown on malt agar for 3 days and an 8 mm core added to either a non-amended PDA plate or a Zumsil™ amended PDA plate. Plates were incubated at 20°C for 48 hours and diameters were measured at 24 and 48 hours. Each treatment was replicated three times. Results are presented in Table 1 and photographs are presented in Figure 1.

**Table 1. Effect of the product Zumsil™ compared to the non-amended control, on mycelial growth of *Rhizoctonia solani* strains when added to PDA at the rate of 1:100.**

Isolates	Source Host	AG Group	Mean Colony Diameter		
			24 hours (mm)	48 hours (mm)	
PDF69	Kale	AG2.1	PDA	11	24
			PDA + Zumsil	0	0
PDF67	Ryegrass	Unknown	PDA	23	46
			PDA + Zumsil	0	0
PDF64	Lucerne	Unknown	PDA	14	32
			PDA + Zumsil	0	0
PDF57	Cineraria	Unknown	PDA	29	61
			PDA + Zumsil	1.5	3.7
PDF34	Potato	Unknown	PDA	23	47
			PDA + Zumsil	0	0
PDF31	Soil under ryegrass	AG3	PDA	21	55
			PDA + Zumsil	2	3
PDF14	Pea	AG2.1	PDA	22	48
			PDA + Zumsil	0	0

Compared to the non-amended PDA, the Zumsil™ amended PDA either completely or near to completely suppressed the growth of all *R. solani* strains.



*R. solani* strain 69 from Kale, PDA left, Zumsil™ amended PDA right

*R. solani* strain 34 from potato, PDA left, Zumsil™ amended PDA right

**Figure 1. Effect of Zumsil™ added to PDA on radial growth of two *R. solani* strains.**

If you have any further questions regarding these findings then please don't hesitate to contact us.

Yours sincerely

Mark Braithwaite (Plant Pathologist)



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