

Effects of temperature, soaking and chemical treatment on the germination of malabar spinach (*Basella* spp.) seed¹

Feng-Chen Chu² Wen-Hwa Lin³

Abstract

The effects of temperature, soaking and chemical treatments on the germination of malabar spinach (*Basella* spp.) seeds. The cultivars of IVG-019, IVG-021, VI046251 and VI051016 were sowed at 20, 25, 30 and 35°C for germination test. The optimal temperature for IVG-021 seed germination was 35°C and for IVG-019, VI046251 and VI051016 seeds 30°C. The seed germination rates of the four cultivars were the lowest at 20°C. Seed soaking, GA₃, and KNO₃ treatments on seeds showed no significant effect on IVG-019 and IVG-021 malabar spinach which had higher germination rates originally. HCl treatment even reduced the germination rate of them. The original germination rate of VI046251 was significantly lower than that of IVG-019 and IVG-021. Treatments with 250 ml/m³ GA₃ and 0.3 M KNO₃ on VI046251 seeds for 24 h could increase the seed germination rates for 62.3% and 48.9% respectively.

Keywords: ceylon spinach, germination rate, soaking, osmotic priming

1. Research Article No.271 of Hualien District Agricultural Research and Extension Station.

2. Contract-based assistant, Lan-Yang Branch Station, Hualien DARES.

3. Assistant researcher, Lan-Yang Branch Station, Hualien DARES.