

*Basella alba* is a perennial plant of the Basellaceae and is known by various common names including Malabar spinach. There are few insects that cause damage to *B. alba*. In this study, we examined the effect of *B. alba* leaves on the growth of *Spodoptera litura* larvae. *B. alba* leaves and a methanolic extract of the leaves inhibited the growth of *S. litura* larvae. Half of the larvae reared on the leaves died within 1 week. We found that two flavonoids, vitexin, and vitexin-2"-*O*-arabinofuranoside, were abundant in the methanol extract of leaves. When larvae were reared on purified vitexin or vitexin-2"-*O*-arabinofuranoside, their growth was significantly impaired compared with larvae reared on control spinach leaves. These results suggested that the flavonoid glycosides in *B. alba* leaves act as deterrents to *S. litura* larvae.

Flavonoid glycosides, vitexin and vitexin-2"-*O*-arabinofuranoside in *B. alba* leaves inhibit the growth of *S. litura* larvae.