

Pitted Morning-glory, *Ipomoea lacunosa* L.¹

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Classification

Common Name: Pitted Morning-glory

Scientific Name: *Ipomoea lacunosa* L.

Family: Convolvulaceae, Morning-glory Family

Seedling

The cotyledons are broad and flattened at the base with a deep notch (Figure 1).



Figure 1. Seedling, Pitted Morning-glory (*Ipomoea lacunosa* L.)

Mature Plant

Pitted Morning-glory is a sparsely hairy, twining annual with a slender tap root (Figure 2). The leaves are ovate with a pointed tip, and may be up to 9.4 cm long and 8.0 cm wide. The leaf margin is usually purple and may be smooth or deeply 3-lobed. The flower stalks are rough and bear 1-3 flowers. The sepals (outer layer) are somewhat leathery in texture and up to 11.5 mm long with a fringe of hairs along the margin. The petals are joined, white to purplish, and may be up to 2.5 cm long. The anthers are purple; the stamens and the stigma are shorter than the petals. The fruit is a rounded or slightly flattened, hairy capsule up to 10 mm broad.

History

Ipomoea is derived from the Greek words *ips* and *homoios* meaning worm-like, referring to the vining habit. The Latin word *Lacunosa* means air-spaces and refers to the venation of the leaves.

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Figure 2. Mature plant, Pitted Morning-glory (*Ipomoea lacunosa* L.)

Habitat

Pitted Morning-glory occurs in cultivated fields, meadows, roadsides and waste areas throughout most of the eastern United States, in northern Florida (Jackson County), and sporadically in southern Florida in Dade and Palm Beach Counties.

Biology

I. lacunosa will cross with *I. trichocarpa*. Sample measurements have shown a vine weight of 443.6-620.3 g, seed number 5,928-13,736 seeds per plant and weigh 21.2-22.1 mg per seed. Germination increased as temperature increased from 16 to 32°C over a period of four days. Maximum germination occurred after the second day at 32°C. This species is sensitive to moisture stress; after 6 days at 10 bars, germination was only 35.2%, while seeds exposed to 0 osmotic pressure reached a peak of 99% germination after the third day. Seeds (a small percentage) have germinated after being stored 39 years. Seed longevity decreased from a 100% germination to 13% germination after 5.5 years at three depths (8, 23 and 38 cm). This plant is not shade tolerant. The presence of wheat has produced a much reduced rate of growth.

Control

Peanuts

Pitted morningglory control with preemergence herbicides is difficult. Only Pursuit will consistently provide >80% control. Strongarm and Valor both have preemergence activity on pitted morning-glory,

but control is often inconsistent and less than 80%. The postemergence herbicides with the greatest levels of activity are Pursuit, Cadre, and Ultra Blazer. Each of these herbicides are effective on pitted morning-glory and will often provide 85 to 90% control of 2 to 4-leaf morning-glory. However, 6-leaf morning-glory is more difficult to control and after 6-leaf only suppression (not control) can be expected. For large pitted morning-glory, Ultra Blazer is the only herbicide option that can be expected to provide acceptable levels of suppression/control.

Cotton

Pitted morning-glory will escape control of all preemergence herbicides, with the exception of Cotoran. Additionally, glyphosate is notoriously weak on all morning-glory species unless applications are made to small weeds. After morning-glory reaches to 4 leaf stage, control with glyphosate is commonly less 80%. However, Staple will provide good pitted morning-glory control and can be tank-mixed with glyphosate or applied alone. Another alternative is the relatively new herbicide, Envoke. Envoke is currently the most effective herbicide for morning-glory control in cotton. Envoke must be applied after the 5 leaf stage of cotton and should not be tank-mixed with other herbicides.