DEPARTMENT OF
B·O·T·A·N·Y
PLANT·PATHOLOGY
PURDUE UNIVERSITY · WEST LAFAYETTE IN

Guidelines for Submitting Digital Plant Images for Identification:

Broadleaf Identification

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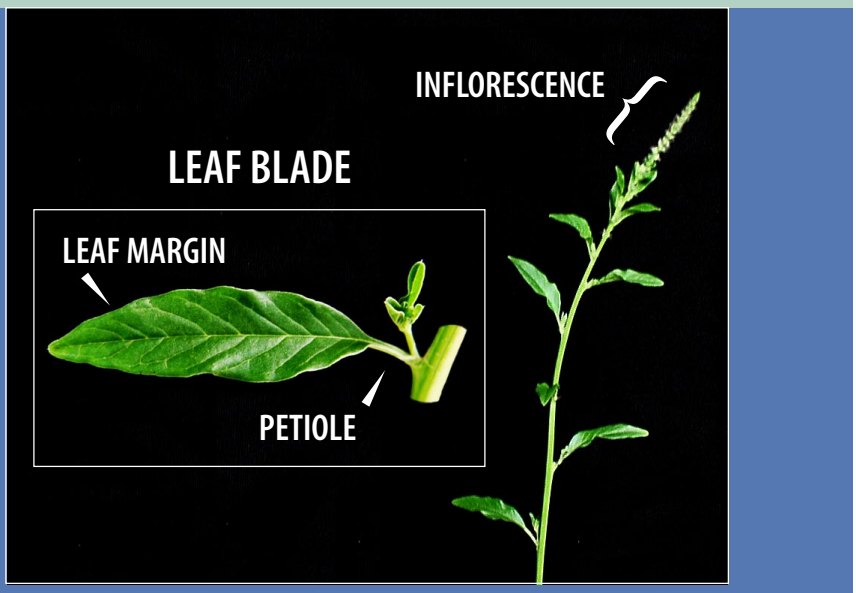
The accuracy of identifying a plant from digital images is dependent on the information captured in the images. The better the image, the better the diagnosis. Certain plant features are necessary for species identification. It may be beneficial to have an image of the entire plant, but it is unlikely for a plant to be positively identified from a single image. Consider submitting multiple images, each one focused on a particular morphological feature. In the columns below are illustrations of important plant features for three broadleaf plants. Note the level of detail needed for each morphological feature. All outlined features do not apply to every plant, while some plants may have other features to consider. When in doubt, take the extra image; it may be the key to correct identification of the plant.

ILLUSTRATION OF THE VARIOUS PLANT PARTS USED THROUGHOUT THIS DOCUMENT.



Weed Management

Purdue Extension

Knowledge to Go
Purdue Extension

Entire plant. To give the diagnostician a general overview of the plant.

CANADA THISTLE

COMMON RAGWEED

VELVETLEAF

Leaf arrangement on the plant stem.

Alternate

CANADA THISTLE

Opposite

COMMON RAGWEED

Alternate

VELVETLEAF

Leaf attachment to the plant stem.

Sessile

CANADA THISTLE

Petiole

COMMON RAGWEED

Petiole

VELVETLEAF

Leaf blade shape. Multiple leaf shapes may be found on the same plant.

Oblong	Cordate	Orbicular
		
CANADA THISTLE	COMMON RAGWEED	VELVETLEAF

Leaf margin.

Doubly serrate	Dissected	Undulate
		
CANADA THISTLE	COMMON RAGWEED	VELVETLEAF

Root system.

Perennial System • 3 connected plants	Simple taproot	Simple taproot
		
CANADA THISTLE	COMMON RAGWEED	VELVETLEAF

Inflorescence.

Cluster of heads

CANADA THISTLE

Raceme of male flowers

COMMON RAGWEED

Solitary

VELVETLEAF

Seed. Even genetically similar species usually have distinct seed characteristics.

Achene

CANADA THISTLE

Achene

COMMON RAGWEED

Seed

VELVETLEAF

Special characteristics of some species.

Sheathing stipules (ocrea)
• typical of smartweeds

Rosette growth habit
• typical of most biennials & some winter annuals

Compound leaves
• typical of many plant families

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