

Weed of Interest: Hedge Bindweed

Andy Senesac, Weed Science Specialist, Cornell Cooperative Extension of Suffolk County

Hedge bindweed (*Calystegia sepium*), also called hedge false bindweed, is an occasional but difficult to control perennial weed infesting cultivated land such as potato fields and nurseries on Long Island. Often this weed can also be a real problem in landscape beds where the rhizomes are brought in from the field or the seed is dropped by birds. This weed overwinters by underground rhizomes produced the previous year. It is a very aggressive climbing and viny species that is slow to start in the spring, but that can quickly overgrow potatoes and nursery plants and seriously interfere with production and pest management. Hedge bindweed is native to the Eastern United States, and as such, it cannot be considered 'invasive'. However, because of its vigorous, viny habit, and ability to grow in many inhospitable conditions, it is often considered a troublesome weed. A closely related species, field bindweed (*Convolvulus arvensis*) occurs sporadically on Long Island in similar habitats. But field bindweed is native to Eurasia and is considered invasive in this country.

Hedge bindweed is a member of the morning-glory family (Convolvulaceae) and has the delicate trumpet-shaped single flowers that are distinctive of other morning-glory species. The triangular, spear-shaped leaves form alternately on fast growing herbaceous

stems which will twine in a counterclockwise direction as they grow. The vines do not have tendrils but just use the twining growth habit to attach to host stems and trunks of other plants. The vines begin to emerge in mid-spring from the soil. The shoots arise from rhizomes (specially adapted shoots) that have overwintered in the soil. Depending on conditions, the shoots can emerge from depths of several inches. This ability to emerge from significant soil depths and an ability to re-initiate new shoots if the original ones are cut by a hoe or cultivator, combine to make this a difficult species to manage once it becomes established at a site.

Management Options: Cultural practices such as repeated cutting of the shoots during the season will eventually exhaust the reserves in the rhizomes and roots. For this to be a successful approach, repeated cutting must be done every three to four weeks during the season and probably for several seasons. Growth regulating herbicides such as 2,4-D and dicamba are registered to control or suppress bindweed. However, because of non-target injury issues, these active ingredients may not have wide practical use. There are other herbicide options in non-crop situations where this weed becomes a problem, but very few in growing crop situations. A selective herbicide in the sulfo-



Field bindweed spreading in a lawn. Photo by A.F. Senesac

nylurea family called rimsulfuron was been registered in New York under a '2EE' exemption. This means that, although hedge bindweed is not listed on the primary label, it is listed under this exemption. Rimsulfuron is sold with several trade names and can be used in a few crops selectively, such as grapes and potatoes. A split application in mid to late summer is recommended for optimal control.

Biocontrol Efforts: Two insect species have been approved and released in the United States in the last three decades to manage these weed species: bindweed moth (*Tyta luctuosa*) and bindweed gall mite (*Aceria malherbae*). Although they appeared to be promising and destructive to the plants in controlled trials, they either have not been successfully established in self-sustaining populations or they have not been consistently harmful to the plants. Many years ago, a former director of Cornell's LI Horticultural Research and Extension Center, Dr. George Selleck, conducted trials with the locally found, native insect, Argus tortoise beetle (*Chelymorpha cassidea*). This leaf eating beetle was found to be able to defoliate hedge bindweed by 90% without harm to nearby crop plants. Like many members of the morning-glory family, bindweed leaves will release toxins, discouraging predation from most insects. However, the Argus tortoise beetle can detoxify them by compartmentalizing them in part of their bodies. This stored poison, in turn, makes the beetle toxic to its predators. For unknown reasons, the tortoise beetle is no longer found in any abundance on Long Island feeding on the leaves of either species of bindweed. When scouting for this weed, if significant leaf defoliation is encountered, it should be reported to CCE of Suffolk County Diagnostic Lab for further investigation. ●



Hedge bindweed flowering in mid-July in a vacant lot. Photo by A.F. Senesac



Young hedge bindweed shoot emerging through mulch. Photo by A.F. Senesac



Overwintered root systems of hedge (L.) vs. field (R.) bindweed. Photo by A.F. Senesac