Weed focus: Plantains (buckhorn and broadleaf)

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There are numerous species of herbaceous-perennial plantains that are found in pastures; however, buckhorn (*Plantago lanceolata* L.) and broadleaf (*P. lantago* L.) are the most common two. They can be distinguished by their leaves. Buckhorn plantain leaves are long (6 to 8 inches), narrow (usually < 1 inch), and have parallel veins (below, left). Leaves of the broadleaf plantain, as its name implies, are more ovate (2 to 3 inches wide) and also have parallel veins (below, right). Both are native to

Eurasia and likely arrived with early settlers, who may have used them in medicines and as food sources since they are edible. In fact, plantains are growing in popularity as livestock feed because they are perennials, rich in nutrients, and tolerate a wide variety of soil types. Broadleaf plantain prefers full sun and moist, compacted soil. Although both species have a relatively weak root system, the buckhorn plantain develops a taproot and so may be more difficult to remove than broadleaf plantain.

The flowers on these two species of plantains are another distinguishing feature. On the buckhorn plantain, the flowers are densely packed at the top of a long, spindly peduncle (adjacent, left). Those of the broadleaf plantain are spaced over the length of the peduncle and are not as tightly packed together (adjacent, right). Both are hermaphroditic (both male and female).

Plantains are non-toxic and can be consumed by livestock and humans, although livestock may avoid the buckhorn plantain until they are acclimated to consuming them. Leaves can be steeped to make tea. The raw seeds have a laxative effect. While they may have value in a complex

pasture system, they can also take over and out-complete more desirable species. Although they are short-statured, plantains produce multiple horizontal leaves forming a flat rosette that can shade and outcompete many seedlings of annual species. Additionally, they may not be welcome in hay fields.

Controlling plantains in pastures: When tillage is an option, it can be effective in controlling plantains. Roots and tops must be separated during the process to avoid re-rooting, so two perpendicular passes are recommended. Heavy disking or use of a moldboard plow are options for tillage. When tillage is not an option, products containing picloram can effectively control plantain. This chemical may be applied alone or in mixtures with 2,4-D amine. Several years of treatment may be necessary to eliminate new plants that crop up from the existing soil seedbank.