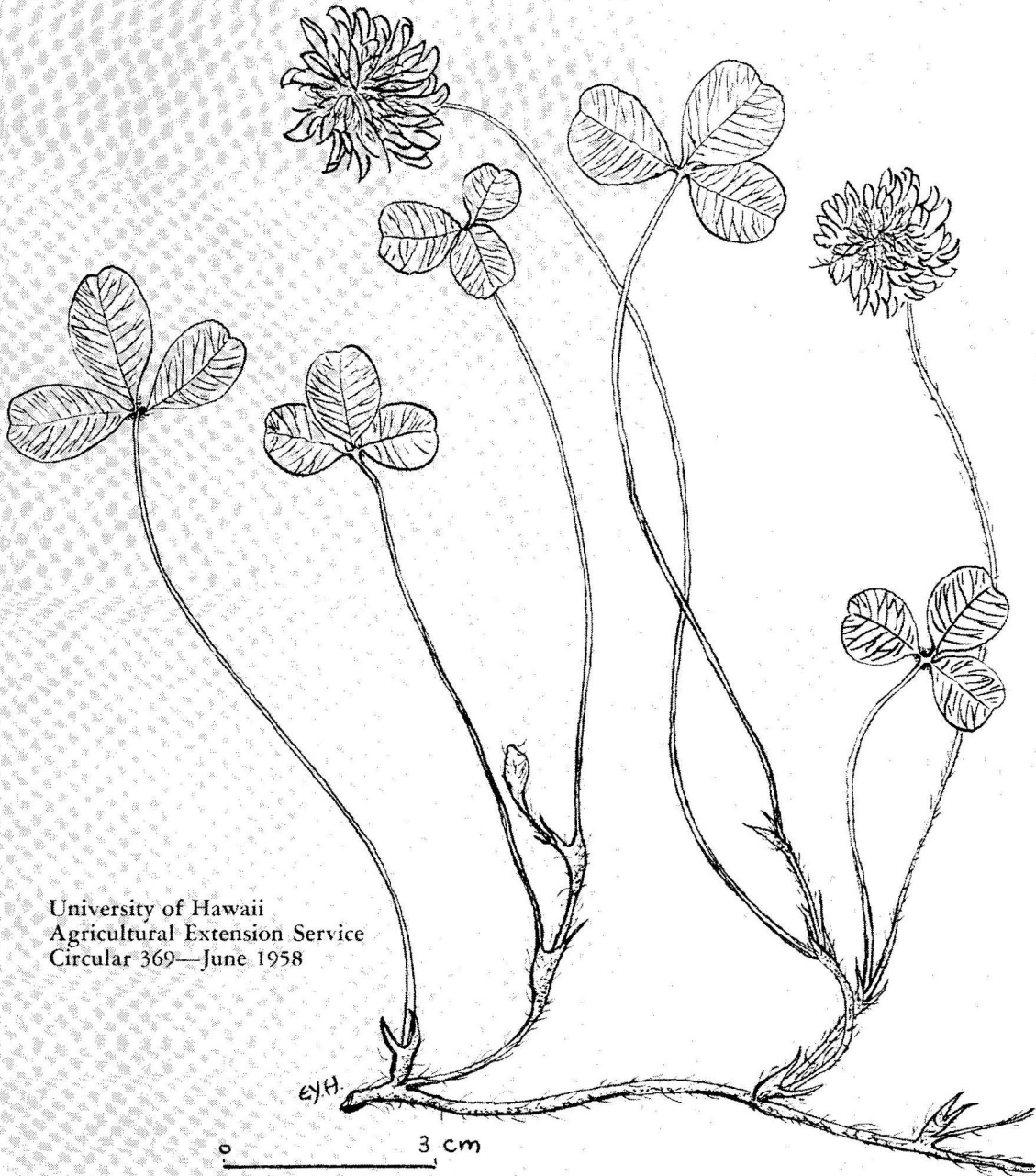


Kenya White Clover in Hawaii

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No research or observation on the performance of a plant is final; there are new facts to be found. The diffusion of knowledge through the publication of the results of research is therefore important. It is the purpose of this circular to inform ranchers and others interested in animal production about new forage species that are important in various parts of the world and have shown promise in Hawaii. Kenya white clover is one of such species.

Kenya white clover (*Trifolium johnstonii* Oliv.) (Fig. 1) was introduced into Hawaii by the University of Hawaii Agricultural Extension Service from Kenya, Africa, in August, 1952. In the highlands of Kenya, the white clover is the most important legume growing with kikuyu grass (*Pennisetum clandestinum* Hochst.). In the East African highlands there is another common legume growing with kikuyu which is called *Trifolium semipilosum* Fresen, a very variable species. Some workers think *T. johnstonii* and *T. semipilosum* are the same species and that they should be called *T. semipilosum*. Until a critical study is made of these species, the Kenya white clover will be treated in this circular as *T. johnstonii*, as more commonly called.

Kenya white clover was first planted in 1952 in the moist and cool region of Kamuela, Hawaii, on Hydrol Humic Latosols. Later it was planted under irrigation in the fairly hot and dry section of upper Lalamilo, Kamuela, Hawaii, on Reddish Brown soils. Under these conditions the clover has done very well in association with kikuyu and bermuda grass. It is as palatable as other varieties of white clover. Under close grazing it produces new shoots and seems to do well. Observations in these planted areas indicate a good and fast recovery after grazing. The fact that Kenya white clover grows slightly larger than the common white clover makes it a better legume to grow with the tall kikuyu grass. (Fig. 2.)

Description

Trifolium johnstonii is a low herb, usually about 8 inches high, but often develops up to 14 inches in height. It has a soft spreading and rooting surface and underground stems. The leaves are trifoliate at the ends of long, slender, hairy leaf-stalks; leaflets are smooth or sparsely hairy, broad at the ends, usually 1/2-1 inch long

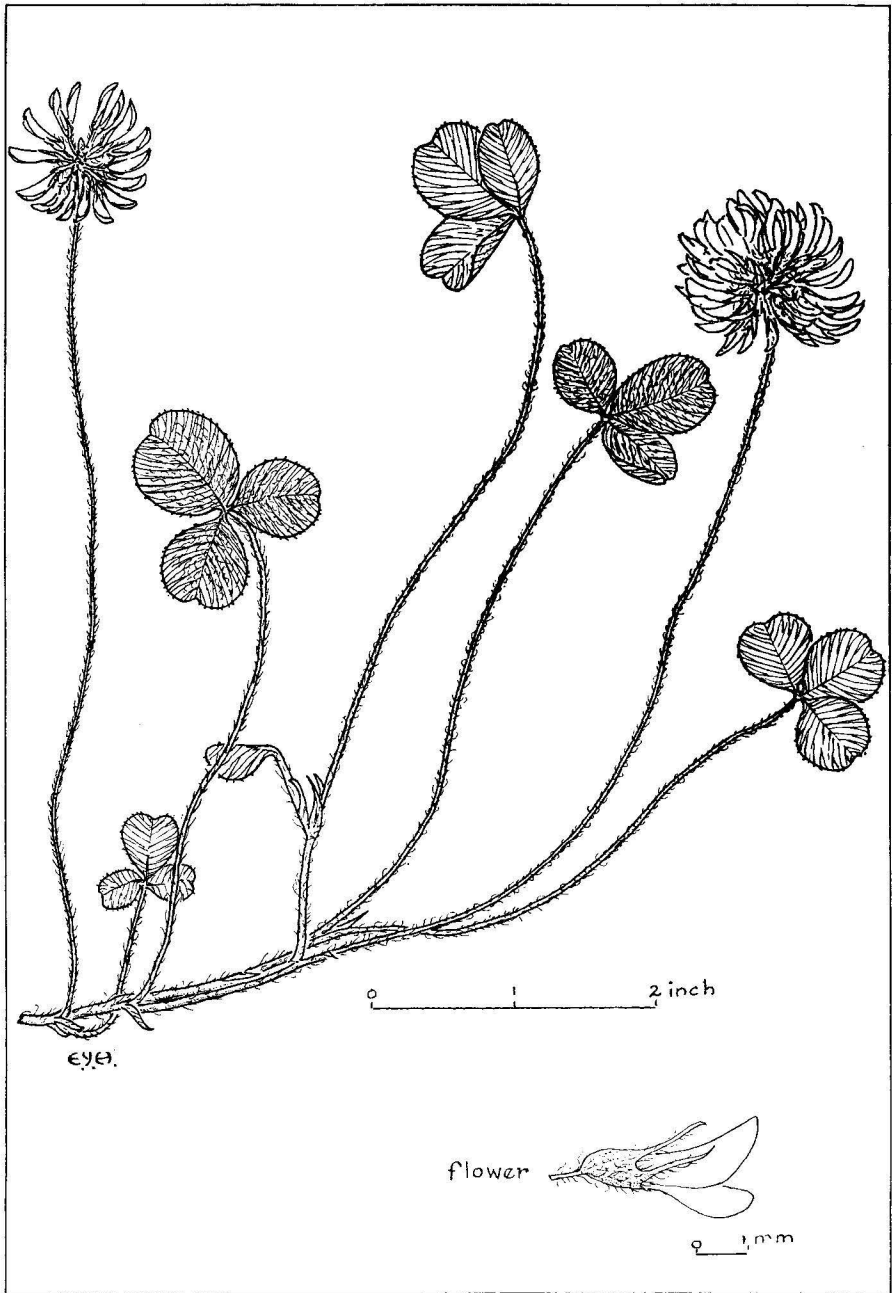


FIGURE 1. Kenya white clover (*Trifolium johnstonii* Oliv.).

and $\frac{1}{2}$ – $\frac{3}{4}$ inch wide, minutely toothed on the margin. Sheath at the base of the leaf is lance-shaped and up to $\frac{5}{8}$ inch long, hairy, united at the base up to half of its length. The flower has a roundish head on a long, hairy stalk, almost white to light pink in color. The flowering heads are 1–1 $\frac{1}{4}$ inches in diameter, with 10–70 flowers. Each flower bends downwards after maturity. The flower is $\frac{1}{2}$ – $\frac{5}{8}$ inch long, flower-bract about $\frac{1}{4}$ inch long, hairy. The pod is broadly linear, about $\frac{1}{4}$ inch long, hidden in the flower. Seeds are found 2–4 in a pod, olive-brown.

Establishment and Management

The seeding quality of *T. johnstonii* is excellent and the establishment of it from seed is easy under favorable, moist conditions. There is no commercial seed available. A rancher who desires to expand his planting of Kenya white clover has to develop his own seed and planting material. Parker Ranch has succeeded in expanding its plantings by using seed and vegetative material from its increase plot. Several important tropical forage plants have been widely planted in this way.

Three to 4 pounds of seed per acre will give a good stand, either drilled in or broadcast. Experience has shown that Kenya white clover can be planted at any time of the year, providing there is adequate moisture. As with all legumes, seed



FIGURE 2. Kenya white clover growing with kikuyu grass.

inoculation is important at the time of planting. The white clover bacteria can be used to inoculate the Kenya white clover.

In starting this clover in an established grass pasture, sprig in small clumps of the plant a few feet apart soon after taking out the animals. In this way the planted plugs will have a good chance of establishment. If seeds are to be used, drill in or broadcast the inoculated seeds a few days before removing the animals. The animals in moving around will trample the seeds into the soil. Because Kenya white clover seeds freely throughout the year, the animals speed up establishment.

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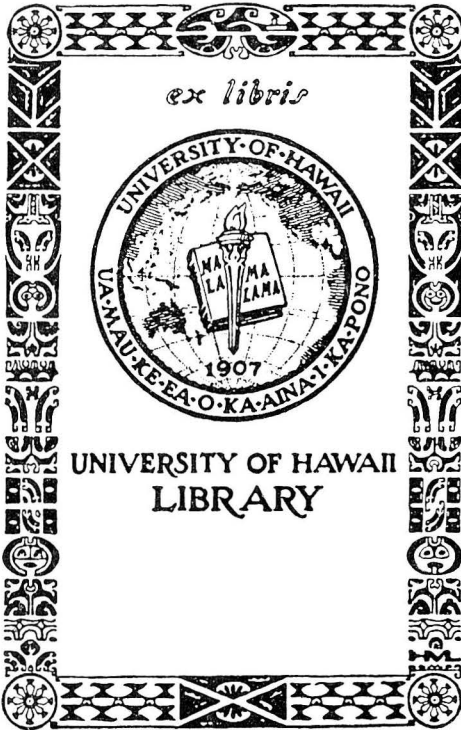
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