

ments, each of which is twice divided into smaller parts and finally the leaflets; the leaflets are very numerous, oblong or narrowly triangular, light to dark green in color and turned down at the edges. Young leaves are coiled at the top of the developing leaf-stalk. There are no flowers. Spores or reproductive bodies, borne in a line of tiny sacs (sporangia) along the edge of the lower side of the leaves, are dust-like and light brown in color. (Fig. 17.)

**Habitat and Distribution.**—Bracken occurs in open, sandy areas, pastures, open woods, rocky fields, and sometimes in open spaces in hammocks. It is common over most of Florida as far south as Lake Okeechobee.

**Toxicity.**—The toxic principle of bracken is unknown. Cases of poisoning have been observed in cattle, horses and chickens. Drying does not destroy the toxicity of the plant. Therefore, hay and bedding contaminated with the fronds are dangerous. The toxic principle has an accumulative action. One heavy feeding on the fronds will not cause poisoning. Typical bracken poisoning is caused by animals eating three or four pounds of the fronds daily; illness develops three or four weeks later.

**Symptoms.**—Cattle affected with bracken poisoning usually have a high temperature, stand with head down and drool. Bloody fluid trickles from the nostrils. Blood appears in the feces, either as black masses or bright red clots. The pulse becomes fast and weak, while respiration often is labored. Death often occurs within 48 hours after the onset of symptoms.

An unsteady gait usually is the first symptom observed in horses affected with bracken poisoning. They become drowsy, push the head against solid objects, and often have difficulty in swallowing. From 7 to 20 days after the onset of symptoms, the animal "goes down." General weakness increases and death occurs in several days, even though the animal may regain its feet.

**Prevention.**—As a general rule animals eat bracken only when starving, on inferior forage, or on overgrazed pastures. Hay containing bracken should not be fed. Bracken areas in pastures should be plowed and reseeded.

**Treatment.**—Some animals recover if treatment is administered early. Saline purgatives or linseed oil should be given. Affected animals should be kept in a quiet place. Soft laxative feeds are beneficial. Recent reports in literature indicate that