

Deferred Grazing

irrigated pasture ungrazed during fall permits plant regrowth

C. R. Horton

Irrigated pastures as a source of summer feed excel any forage crop, except possibly, alfalfa.

During the period of lush growth the carrying capacity of good irrigated pastures may exceed two animal units per acre month with the average somewhere between one and two units. Between five and 10 acres of these same pastures are required to maintain one mature animal per month during the late fall and winter months. The amount of feed that can be grazed during this period is almost nil.

Ranchers in Merced County have been trying to produce feed on irrigated pastures that can be grazed off during the fall and winter. Several reasons make such grazing desirable:

1. With the growing popularity of using pasture in place of feeding hay, many farmers are planting more pasture and are fattening a few steers.

2. Small land owners do not have large acreages of mountain or slough pasture which could be used during the period when irrigated pastures are dormant. They are dependent upon the irrigated pasture for the entire year.

3. Many farmers are raising dairy replacement heifers and need plenty of high quality roughage during the winter.

Deferred grazing of irrigated pastures necessitates leaving the pasture ungrazed—beginning about September 1st—until growth stops completely or is slowed up by killing frosts. This allows three or four months' growth to accumulate on the plants before grazing begins. Usually pastures are grazed from about January 1st until all growth is eaten down or until growth starts in the spring.

Letting the pasture mature enables most of the plant species to reseed the pasture. This helps improve the pasture where bare spots may have occurred.

It is probable that no extra feed is obtained from the pasture by winter grazing and the period of nongrazing or nonproductiveness is merely shifted from the winter months to the fall. To do this the farmer may require other pasture he can use during this nongrazing period. Management practices and no overstocking of the farm can arrange to allow the pasture to go ungrazed during the fall months. Probably this will mean the building of extra fences and the cutting of the pasture into smaller fields.

In evaluating this method of grazing irrigated pastures it is necessary to consider the various plants now grown. The basic pasture plant in Merced County is alfalfa which makes good growth from September until frost. The tops are killed by frost and after the plants stand a while the rains knock the leaves to the ground, leaving only the stems standing. These stems are eaten down before spring growth begins. Most of the leaves that have fallen on the ground will be eaten if the cattle are left on the pasture.

Ladino clover is very important in irrigated pastures as it grows well during the fall and can stand more frost than alfalfa. It is readily eaten by stock but it does not appear to be quite as palatable as narrow leaf birdsfoot trefoil during the winter period. Severe frost will kill the tops and much fodder may be lost.

Narrow leaved birdsfoot trefoil makes good growth during the early fall. It will stand even colder weather than Ladino clover. When protected by Dallis grass or other cover it will even keep on growing during the winter months, if weather is not too severe. This legume appears to be the most relished plant in the winter grazed pasture. Cattle and sheep will eat it down to the ground and keep it there. Since it grows slowly even during the spring and summer many farmers feel they get little feed from it. When the pasture is not grazed after September 1st, the plant runners may reach the extreme length of two feet and can be found nearly as tall as Dallis grass, which tends to raise and hold up the birds-foot trefoil.

Dallis is perhaps the most important grass that should be used in a pasture for winter grazing. It makes good growth after September 1st and is readily grazed after the tops have been killed by frost. Some farmers think a chemical change takes place in the stalks making them sweeter and more palatable than during the growing season. With a heavy top growth, the leaves and stems at the ground level may actually continue to grow during a mild winter. At least they remain green and cattle will eat them back to the ground. The cattle appear to first graze off the seed heads before beginning on

the stems. A good growth of either narrow leaved birdsfoot trefoil or Ladino clover will tend to make the Dallis more palatable. In going after the legumes the cattle also eat some of the grass. It may be necessary to spray the Dallis grass with molasses to make it palatable if there are no legumes present.

The rye grasses both act as perennials under Merced County conditions and both make good growth after September 1st. They tend to form bunches. They are not apparently injured except by very heavy frost when the tips of the leaves become brown and dry. During warm spells they will put on a little growth. They start growing very early in the spring and with Ladino will give the bulk of the spring feed. Both grasses are readily eaten during the winter months.

Tall fescue makes good growth after September 1st. During this period, as well as during the summer time, it forms a bunch which may become quite large if not mowed or grazed down to the ground. The seed stocks are not very palatable and are quite stiff, thus apparently discouraging the cattle from eating the clump by forming what may be described as a pin-cushion. If heavily grazed, tall fescue will be eaten to the ground and the clumps will be only a few inches high, not too different from Dallis grass. The clumping habit is very objectionable from a management point of view. Some farmers complain of breaking mowing machines trying to cut the clumps. It is very difficult to run a wheel tractor and wheel equipment over the pasture. This clumping probably can be eliminated or at least reduced by heavily grazing, frequent mowing during the summer when the seed stalks first appear and are left by the cattle, or by increasing the rate of seeding from about three to 10 pounds per acre, thus forming a continuous sod of fescue rather than individually spaced clumps. Renovating the pasture by disking would eliminate the clumps for a few years without materially hurting the pasture.

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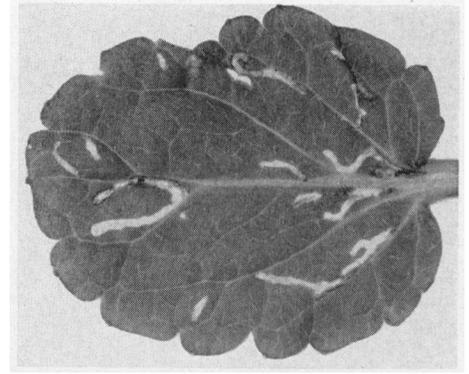


Heifers, dry cows and beef cows and calves grazing Orchard grass pasture.

Wind Borne Pest

omnivorous leaf tier controlled readily by insecticide treatments

A. Earl Pritchard and W. W. Middlekauff



Larval mines, the initial injury, on an aster leaf.

Satisfactory control of the omnivorous leaf tier—*Cnephasia longana*—can be obtained with either DDT or dichlorodiphenyl dichlorethane when used at a rate of two pounds of the 50% wettable powder per 100 gallons of water.

Parathion gave control on asters but plant injury was produced. Benzene hexachloride, chlordane, and toxaphene were found to be ineffective.

Nearly all of the major field-grown flower crops near San Francisco are subject to attack by the omnivorous leaf tier. Asters, Marguerites, Shasta daisies, bachelor-buttons and straw flowers are seriously damaged by the maturing caterpillars which feed largely within the buds of new growth or burrow within the developing flowers. On heather, the caterpillars feed on the tips of new growth or mine the more succulent terminal shoots. The damage to calla lilies, watsonias, gladiolus, daffodils and iris is largely due to the webbing and feeding of the larvae within the buds or opened flowers.

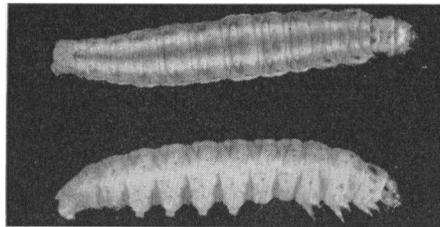
Field crops which are known to be injured in California include flax and strawberries. On strawberries in particular, the omnivorous leaf tier is a potentially important pest. Peas, hops, clover, vetch, and alfalfa are recorded as being subject to damage.

Nursery stock is also subject to attack. The tips of apple, cherry, plum, and ornamental shrubs and trees—such as lilac,

magnolia, birch, hawthorne, and conifers—are tied and eaten. This sometimes results in malformed plants.

The omnivorous leaf tier is an introduced pest, first recognized in California in 1948. It proved to be a serious pest of field-grown cut flowers along the San Francisco peninsula. The damage to these crops appeared to be considerably more severe in 1949, and considerable damage to flax was also noted. The known range of the leaf tier was extended in 1949 to the east side of San Francisco Bay, and as far south as Santa Cruz.

The omnivorous leaf tier overwinters as a tiny caterpillar within a cocoon. Cocoons are found under the bark of trees and in crevices of posts and telephone



Adults of the leaf tier are about $\frac{5}{8}$ inch in length.

poles. From the latter part of February to early April the caterpillars come to the surface of the wood and spin silken threads and are then carried by the wind to the fields and gardens.

At first the tiny caterpillars mine within the leaves for several weeks. Then they leave the mines and move within the centers of new growth or buds to feed. The caterpillars reach maturity during the latter part of April and in May. The pupae are formed between webbed leaves or blades of grass.

The moths emerge mainly during May, and can be flushed from the low vegetation in fields during the day time. At night the eggs are laid in groups on the bark of trees. The eggs hatch soon after being laid, and the tiny caterpillars immediately spin a cocoon within which to spend the summer and winter.

Control of the caterpillars is most easily accomplished when they are leaving the leaf mines and before they are protected by new growth. During the 1949 experiments, the best time for spraying was found to be during late March or early April.

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Orchard grass makes good growth between September 1st and the first killing frost. It then behaves very much like Dallis grass. The leaves become quite limp and unlike tall fescue, can be eaten clear to the ground. The seed stalks do not seem to be as stiff as those of fescue and are usually broken down or pushed aside. The stem and leaves remain green at the base of the clump and these are relished by livestock after the tops have been eaten off. Orchard grass pastures which get ahead of the farmer during the summer may be grazed off completely during the winter period by beef cows, dry cows, heifers and sheep. In order to prevent the clumping of Orchard grass it must be

clipped frequently or grazed heavily. Bermuda grass is usually considered a pest in irrigated pastures in Merced County. As soon as it flowers it becomes unpalatable to most livestock and is the last plant eaten during the winter period. It is killed early in the fall and all growth ceases until spring. If narrow leaved birdsfoot trefoil or Ladino clover are found growing in the Bermuda grass, cattle will eat it a little more readily. It is usually recommended that the Bermuda be burned in the fall and overseeded with Ladino, birdsfoot trefoil and/or the rye grasses. These latter plants will usually come along during the winter and have considerable growth before the Bermuda begins to grow in the spring. It may be desirable to harrow the burned over spots but success has been obtained by just sowing the seeds on the burned areas.

Fertilization of the pasture is essential if maximum growth is to be obtained during the fall. An annual application of 300 pounds of single superphosphate has been found to be adequate to maintain a high amount of growth. Barnyard manure has also been found to be beneficial when applied at the rate of about 10 tons per acre. An application of nitrogen just prior to the irrigation—about September 1st—would be of benefit in stimulating growth of the grasses.

After the pasture has been grazed off it will be advisable to spread the cow droppings that will have accumulated. In some fields the accumulation of droppings has made them look like feed lots. A spike tooth harrow will do a fair job of spreading the droppings.

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