THE EFFECT OF FREQUENCY OF CUTTING ON THE
YIELD OF ALFALFA UNDER HAWAIIAN
CONDITIONS

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Scientific studies on the growth behavior of forage crops in the
tropics have been given but little attention. The need for more
investigations in this important field has been emphasized by Paterson (4, 5, 6), who has been concerned with these problems in Trinid-
dad. In the extension of the cultivation of improved forage plants in
tropical and sub-tropical regions, alfalfa has been one of those crops on
trial. Due to high atmospheric humidity, excessive weed competition,
and the expense of getting a clean stand established, alfalfa will
probably never gain the importance in the tropics that it has in the
temperate regions. It has been possible, however, under certain
favorable sub-tropical and tropical conditions to obtain exceptionally
high yields.

In Hawaii, especially in the drier sections, where the annual rain-
fall is not more than 30 to 40 inches, alfalfa has possibilities. It is often
difficult to maintain a stand for a number of years, but yields may be
excellent for the first 2 years.

At low elevations where the temperature range rarely exceeds 30°
F throughout the year (extremes of 57° to 87° F), there is a continuous
growing season. While growth is retarded during the winter months
there is no dormant or rest period. Under these favorable conditions
it has often been recommended that alfalfa be cut every 4 weeks, or
that 12 or 13 cuttings be taken in one year.

It is well known among forage crop workers in the temperate zones
that too frequent cutting of alfalfa will so reduce the root reserves
that the stand will be materially injured during the cold dormant
season, with a great reduction in yield the following year.

Graber and his associates (1) showed that under Wisconsin condi-
tions, cutting twice a season gave higher yields over a period of
several years than cutting three times a season. Kiesselbach and
Anderson (3) in Nebraska have recommended cutting alfalfa when
the crop was between one-tenth and one-half in bloom in order to get
the most effective hay yields. Grandfield (2) has shown, in discussing
20 years of experimental work relative to the time and frequency of
cutting alfalfa at the Kansas Experiment Station, that under tem-
perate zone conditions the fall of the year is the critical period as
far as organic root reserves and permanence of stand are concerned.

The present experiment was designed to show what effect frequent
cutting would have on the yield of subsequent harvests and to de-
terminate at what stage the highest yields of palatable green forage
could be obtained under conditions of a continuous growing season.