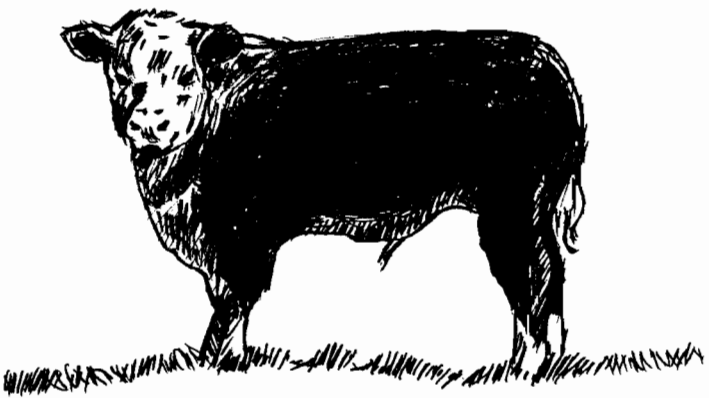


IRRIGATED PASTURES
FOR LIVESTOCK



AGRICULTURAL EXTENSION SERVICE
University of California
Farm and Home Advisors Office
Agricultural Building
Woodland and West Main Streets
Visalia, California 93277

Prepared by
Robert F. Miller
Tulare County Farm Advisor

Co-operative Extension work in Agriculture
and Home Economics, College of Agriculture,
University of California, and United States
Department of Agriculture co-operating.
Distributed in furtherance of the Acts of
Congress of May 8, and June 30, 1914.
George B. Alcorn, Director, California
Agricultural Extension Service

This publication is designed to aid farmers
and ranchers in planting and producing irri-
gated pasture in Tulare County. It contains
sample seed mixes, cultural and management
recommendations, and a description of the
various pasture plants.

Modifications of the pasture mixes listed
for cattle may be desirable, depending on
the rancher's preferences or special con-
ditions which may exist. For example,
some ranchers may wish to reduce or omit
the alfalfa because of the bloat hazard.
If this is done, trefoil, which does not
cause bloat, should be added, or the amount
of strawberry clover, which constitutes
less of a bloat hazard, should be increased.

The grass species suggested may also be
modified. Some ranchers have substituted
NK-37 Bermuda for Rhodesgrass in the alka-
line mix, and while this practice has not
been 100 percent successful, it has worked
well in a number of instances.

If modification or substitution of the
following pasture mixes seems desirable,
keep the grass and legume portion in
balance and maintain the amount of seed
recommended per acre.

IRRIGATED PASTURE

SAMPLE SEED MIXES

1. General Mix for Average Soil

	<u>Lbs./Acre</u>
Salina Strawberry Clover	3
Tall Fescue	6
Dallisgrass	6
Annual Ryegrass	3
	<u>18 #/acre</u>

2. Bloat-Free Mix

	<u>Lbs./Acre</u>
Narrowleaf Trefoil	3
Tall Fescue	5
Dallisgrass	5
Perennial Ryegrass	2
Annual Ryegrass	2
	<u>17 #/acre</u>

3. Mix for Sandy Soils or Foothill Areas

	<u>Lbs./Acre</u>
Alfalfa	2
Narrowleaf Trefoil	3
Dallisgrass	4
Tall Fescue	4
Annual Ryegrass	3
	<u>16 #/acre</u>

IRRIGATED PASTURE

SAMPLE SEED MIXES

4. Mix for Moderately Alkaline Soils

	<u>Lbs./Acre</u>
Alfalfa	2
Narrowleaf Trefoil	3
Salina Strawberry Clover	2
Tall Fescue	6
Rhodesgrass	2
Annual Ryegrass	2
	<u>17 #/acre</u>

5. Mix for Extremely Alkaline Soils

	<u>Lbs./Acre</u>
NK-37 Bermudagrass	5 #/acre

Bermudagrass should be planted on highly alkaline soils, particularly those that have been newly leveled, because of its ability to grow under unfavorable conditions. It should be planted from May 15th to August 15th and be irrigated lightly every three to five days until the stand is established. If a dust mulch exists, the seeding should not be covered, as this operation can cover the seed too deeply.

During the fall, following the second growing season, 3 lbs. of strawberry clover and 6 lbs. of tall fescue/acre should be broadcast and lightly disced in. This planting will greatly extend the pasture season and the performance of the livestock being grazed will be improved, due to the increased variety and palatability of the forage.

IRRIGATED PASTURE

SAMPLE SEED MIXES

6. Seed Mix for Sheep

Lbs./Acre

3	Ladino Clover
6	Narrowleaf Trefoil
1	Strawberry Clover
<u>10</u>	#/acre



7. Seed Mix for Hogs

Lbs./Acre

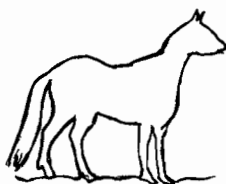
3	Moapa Alfalfa
2	Ladino Clover
2	Strawberry Clover
2	Narrowleaf Trefoil
<u>9</u>	#/acre



8. Seed Mix for Horses

Lbs./Acre

2	Narrowleaf Trefoil
3	Tall Fescue
4	Dallisgrass
3	Perennial Ryegrass
3	Annual Ryegrass
<u>15</u>	#/acre



SAMPLE COSTS FOR IRRIGATED PERMANENT PASTURE
TULARE COUNTY - 1970

COST ANALYSIS WORK SHEET

	<u>COST PER ACRE</u>	
	<u>SAMPLE COST</u>	<u>YOUR COST</u>
<hr/>		
Cash Costs:		
Land preparation, seed, plant, and extra first year costs - \$25.00 - 10 years		\$ 2.50
Mow, fence work, etc. - 1½ man and 1 tractor hours		\$ 3.00
Irrigation labor - 5 man hours @ \$1.85/hr.		\$ 9.25
Irrigation water - 5 acre feet @ \$3.00/acre ft.		\$15.00
Fertilizer - average per year		\$ 7.50
County taxes		\$10.00
Office, car, telephone		\$ 1.50
Repairs except tractor - irrigation system and equipment		\$ 2.50
<hr/>		
TOTAL CASH COSTS		\$51.25
<hr/>		
Depreciation:		
Irrigation system - original cost \$100		\$ 6.00
Tractors - 2 hours @ \$.75/hr.		\$ 1.50
Other equipment - cost \$10.00 - 10-yr. life		\$ 1.00
Fences - cost \$10.00 - 10-yr. life		\$ 1.00
<hr/>		
TOTAL DEPRECIATION		\$ 9.50
<hr/>		
TOTAL CASH AND DEPRECIATION COST		\$60.75
<hr/>		

R O T A T I O N G R A Z I N G

Greater forage yields will be obtained by allowing pasture plants a recovery period between grazings. This is best accomplished by fencing the pasture into several subdivisions and rotating the cattle to obtain maximum plant growth. Observations have indicated that the cattle being pastured may gain better if rotation is kept to a minimum. However, under this pasture system less total cattle will be grazed, but a higher daily gain per head will be obtained.

T H E B L O A T P R O B L E M

Mortality from bloat is a constant threat to cattle being grazed on irrigated pastures containing clover or alfalfa. Bloat is caused by the cattle or sheep consuming too much bloat-producing forage such as clover or alfalfa in too short a time. For this to occur, the bloat-producing forage must be available and in a highly palatable stage of growth. The percent of clover to grass in a pasture is of little consequence because of the selective grazing habits of the livestock. Several practices will help eliminate the bloat hazard:

1. Don't Turn Hungry Cattle Into A Pasture Containing Legumes

Fill them with good quality, dry hay and turn them in about mid-morning so that they can be observed during the rest of the day.

2. Open the Gates

Rotation grazing increases availability and palatability of bloat-producing plants. By allowing access to all the pastures, the availability and palatability of the forage changes slowly, greatly reducing the bloat hazard.

3. Provide Supplemental Feed

If cattle can eat some dry hay their appetite for the pasture will be reduced, thus reducing the bloat hazard. The hay should be of good quality so that some consumption is assured.

M O L Y B D E N U M

Molybdenum is a mineral which consumed in excess will reduce gains and cause the cattle to have rough hair coats and scour. It is carried in legumes and its effect can be overcome by feeding copper sulfate. A mix containing 50 pounds of salt, 50 pounds of ground barley and 1 pound of copper sulfate, fed free choice, will help correct the problem.

An injectable form of copper can also be used. It may be preferred over feeding, since it assures proper dosage to each head.

The molybdenum problem usually occurs in pastures located in alkali areas, but it is not restricted to these areas. Internal parasites cause symptoms similar to molybdenum and this possibility should not be overlooked.

N U R S E C R O P S

Nurse crops, such as barley or oats, are sometimes planted with the irrigated pasture seed. This practice will result in a greater supply of late winter and spring feed, but will slow down establishment of the pasture. Overall feed needs should therefore be considered before undertaking this practice.

D E S C R I P T I O N O F P L A N T S

LEGUMES

Alfalfa

A non-dormant variety that is resistant to the spotted alfalfa aphid is recommended for pasture. Alfalfa may cause bloat, but the hazard is reduced as the plant approaches maturity.

Narrowleaf Trefoil

Narrowleaf trefoil will not cause bloat and is quite tolerant to alkali.

Strawberry Clover

The Salina strain of strawberry clover is suggested because of its alkali tolerance and superior forage production. Strawberry clover is recommended in preference to Ladino clover because it is less likely to cause bloat.

DESCRIPTION OF PLANTS

Tall Fescue

This plant has lost favor because of its aggressiveness, tendency to clump, and coarseness when mature. However, it is an alkali and drought-tolerant perennial and will produce forage under conditions where less hardy plants could not survive. Increasing the seeding rate will result in a higher plant population and will reduce the clumping tendency.

Dallisgrass

This perennial produces heaviest during the hot summer and early fall. It will grow under drought, excessive moisture, and low fertility, therefore is suited to foothill pastures and pasture on sandy or poorer soil. It is unpalatable when matured.

Rhodesgrass

This grass is somewhat coarse and is not relished by livestock. However, because of its extreme tolerance to alkali, it is recommended where these conditions exist.

Perennial Ryegrass

This grass is a short-lived perennial. It is finer stemmed and does not grow as tall as annual ryegrass.

DESCRIPTION OF PLANTS

Annual Ryegrass

This grass will produce spring and early summer feed on a newly planted pasture. Because of its rapid and early germination, it shades the ground and reduces weed competition while the more slowly developing perennials are becoming established. It seldom reseeds itself and is not usually seen the second year.

Revised December 1969
200 c
mw