

Other bulletins available dealing with range improvement:

Control of oak trees on California foothill range

Chemical control of woody plants in California

Use of fire in land clearing

Improve your range with Harding

Production of range clovers

Range species recommended for sowing on cleared brushland in California

Grass or Oaks?

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Range

Glenn County

Fertilizing

SOIL TYPE

PLANTS PRESENT

RESULTS WANTED

FERTILIZER

PROFIT

PROSPECTS

EXCELLENT

SEHORN - clay and clay loam;
developed from sandstone and
shale;
18-36" deep; north slope

5-15 acres per animal unit per
season

Unfertilized yield of 1500-2000
lbs. dry feed per acre

DESIRABLE GRASS - 20-40%
soft chess, wild oats, ryegrass

UNDESIRABLE GRASS - 20-30%
ripgut, red brome, medusa-head,
fescue, foxtail

DESIRABLE FORBS - 15-30%
bur clover, native clover, some filaree

WEEDS - 20-25%
tarweed, plantain, fiddleneck, thistle

Higher quality late feed
Higher protein late feed
More clover
More total feed
More palatable feed
Good carryover response

2-6 weeks earlier feed; more total feed;
more palatable feed; more grass

Both above

MYERS, ZAMORA, WALKER, AYAR -
Deep well-drained bottomland
soils

Same as above plus some perennial grass;
check for clovers!

Same as above

FERTILIZER

PROFIT

PROSPECTS

GOOD

MILLHOLM - clay loam, deep phase;
developed from sandstone and
shale;
12-24" deep; south slope;

10-20 acres per animal unit per
season; unfertilized yield 1000-
1500 lbs. dry feed per acre

DESIRABLE GRASS - 20-30%
soft chess, wild oats

UNDESIRABLE GRASS - 10-20%
red brome, fescue

DESIRABLE FORBS - 40-45%
mostly filaree, some bur clover

WEEDS - 20-25% - plantain, tarweed

Higher protein; higher quality feed
More clover; more total feed
More palatable feed

2-6 weeks earlier feed; more total feed;
more palatable feed; more grass

Both above

NEWVILLE - gravelly loam;
6-20" to hard gravelly clay;
4-18" to stratified sandy clay

10-20 acres per animal unit per
season

Unfertilized yield 400-1000 lbs.
dry feed per acre

DESIRABLE GRASS - 5% - soft chess

UNDESIRABLE GRASS - 10-20%
fescue, medusa-head, red brome

DESIRABLE FORBS - 20-50% - broadleaf
filaree, native lotus

WEEDS - 25-55% - plantain, lupine

Higher protein late feed can be accom-
plished only by reseeding to legumes

2-6 weeks earlier feed
More total feed
More palatable feed
More filaree

Check with the Farm Advisor for recommendations on other Glenn County soils.

FERTILIZER TO USE PER ACRE

THINGS TO THINK ABOUT

<p>FERTILIZER PROFIT PROSPECTS EXCELLENT</p>	<p>1. Sulfur gave most economical response. 2. Single superphosphate gave greater response. 3. Legumes increase soil fertility. 4. NO RESPONSE without clover present - poorer response in poor clover years. 5. Bloat hazard is increased in good clover years. 6. Repeated sulfur applications may make soil more acid. 7. Elemental sulfur may not be available to plants first year.</p>
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<p>FERTILIZER PROFIT PROSPECTS GOOD</p>	<p>1. N & S gave greatest first-year response but poor carryover. 2. Some weedy grasses respond as well as desirable ones. 3. Fertilizer losses may be great in high run-off years. 4. Repeated applications and undergrazing tend to reduce clover growth. 1. Good idea to have soil tested for available phosphorus first. 2. Nitrogen losses are high on water-logged soils. 3. Do not fertilize if Hardinggrass is to be sown.</p>
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<p>FERTILIZER PROFIT PROSPECTS POOR</p>	<p>1. Sulfur produced an extra 800 lbs. of feed for \$8.05 per ton. 2. Usually not enough bur clover to fertilize with "single super." 3. Good site to reseed with rose clover and fertilize. 1. N & S produced an extra 3890 lbs. of feed for \$10 per ton. 2. Depth of this soil varies - be sure to check. 1. Reseed!</p>
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<p>FERTILIZER PROFIT PROSPECTS POOR</p>	<p>1. N & S produced an extra 3594 lbs. feed for \$11 per ton. 2. Do not fertilize if clover reseeding is planned. 3. Sulfur alone has sometimes caused a depression in yield.</p>
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THE PROBLEM

Most rangeland
is low in fertility

Temperatures are usually
too cold for early growth.

Weedy grasses often
dominate and reduce range
feed quality.

FERTILIZER CAN HELP IN GLENN COUNTY

Feed increased 2-5 times
Carrying capacity tripled
More beef and lamb by 2-4 times
Sheet erosion decreased
Palatability of feed increased
Protein of grass and clover increased
Weeds reduced

EARLY FEED

or

BETTER LATE FEED

Nitrogen with sulfur and
phosphorus where needed will
let grass grow in colder
weather. Grass is ready to
graze 2-6 weeks earlier than
normal. Fertilize before
fall rains.

Phosphorus and/or sulfur
boosts clover growth.
Mature clover has twice as
much protein as grass.
Fertilizer can be applied
in mid-season if prospects
for clover year are good.

FERTILIZING RANGE IS PROFITABLE when the right fertilizer
is put on the right soil and the increased feed is used
either by increasing stock or making hay.

IN THE LONG RUN probably the soundest fertilizer program
is to encourage bur clover where it is adapted and to
develop rose clover and other legumes where possible.

FERTILIZER COSTS AND RETURNS

Don't skimp on the rate if there are not enough dollars
to go around. Cut on the acreage, not the rate.

Application is usually cheaper by ground, approximately
\$1.00 per acre, than by air, approximately \$.80 per 100
lbs.

Fertilizer plot results*

Elemental sulfur produced the most economical yields,
as low as \$2.72 per ton for 2300 lbs. actual feed
per acre in three years.

Phosphorus and sulfur produced the highest yields,
5100 lbs. per acre, in three years at a cost of
\$8.76 per ton. Crude protein was also highest.

Nitrogen and sulfur produced the greatest yield in
one year, 3200 lbs., at \$13.00 per ton and the
greatest increase, 6 times, over unfertilized.

Sevier fertilizer trial - Athena - 1953-56

4-year results

Control

Fertilized

Average acres/head	8.7	3.4
Total grazing days/acre	61	187
Total beef/acre, lbs.	108	315
Cost/lb. extra beef		10¢

Fertilizing and reseeding ranges are eligible for
ASC payment of approximately one-half. Contact
the ASC office, 135 South Tehama Street, Willows.

PLAN AHEAD

What are your soils? What fertilizer to use?
What plants are growing there? What factors are involved?
What results can you use? What help is available?

* Based on soil vegetation survey plots