



# SOME OBSERVATIONS ON CHOPPING GREEN ALFALFA FOR FEEDING BEEF CATTLE

by

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Finishing beef cattle has been a very important industry in Imperial County during the entire history of the area. Finishing was done for the most part by pasturing on alfalfa and very few were yard fed during the early years. Some of the original cattlemen who pioneered the industry in this area are still here and have always kept ahead of changing conditions.

A change from pasturing out on alfalfa for the most part to a system of yard finishing with concentrates developed rapidly after the middle 30's. During the year ending July 1, 1952, a survey showed over 245,000 cattle fed out in Imperial Valley feed yards.

The latest development is the green feed chopping, where the cattle are never pastured but put into the feed yard from the first and green chopped feed is hauled to them. A few farmers are using this method in Imperial County and the purpose of this leaflet is to give results which it appears from the records may be of interest to others who are considering this method of feeding.

Due to the widespread interest among feeders and the many inquiries coming into the farm advisors' office concerning this method of feeding cattle, we are presenting herewith some observations and results as reported by feeders during the past year.

## WHAT ADDITIONAL EQUIPMENT WILL BE NEEDED AND WHAT WILL IT COST?

Forage Clipper	\$2500	approximately
Green Feed Wagon	<u>3000</u>	"
Total	\$5500	"

The forage clipper is hooked to the tractor and the green feeder trailed from the clipper. A light tractor is used to pull the outfit in the field. When the green feeder is filled the tractor is disconnected and used to haul the feeder wagon to the feeding corrals. The green feeder has a power driven unloader and cross conveyor and will unload directly into the feed troughs. Only one man is required for this complete operation. If desired the green feeder can be mounted on a truck but it then becomes a two man operation.

There are many variations. Where there are a large number of cattle, two wagons may be used with one forage clipper. Some want two outfits so that in case of breakdown or delays the regular feeding schedule is not interrupted.

## HOW MUCH FEED WILL THIS OUTFIT CUT AND WHAT WILL BE THE COST?

There was a wide variation in the experiences of the feeders. The following calculations seem to be a reasonable estimate under good management. A 5-foot cut machine and its average acreage per hour in standing alfalfa running to one ton dry hay equivalent, is 2 1/2 acres per hour. Fuel consumption is 2 gal. per hour and it is estimated that a nine-hour run per day will cut enough green feed to handle approximately 900 head of cattle. One machine covered 900 acres and chopped an estimated 3000 tons of standing alfalfa.

Another estimate with a five foot cutter bar shows about 1 acre in approximately 40 minutes. The green feeder wagon should hold about 7000 pounds of green feed and one feeder estimated that he would average about one hour to cut, haul and feed one load, 7000 pounds, covering one acre. From this, estimates can be made for the cost of chopping and feeding per acre and per ton. The cost per acre would be one man hour, one tractor hour and one equipment hour and applying cost rates to these inputs would give the cost per acre and per ton for chopping and feeding. It is obvious that these costs will vary widely depending on distance hauled and efficiency in operation.

WHAT HAVE BEEN SOME OF THE RESULTS IN FEEDING?

One feeder from carefully compiled records gives the following results:

537 calves, average weight 440.2 $\frac{1}{2}$  were put on feed January 1. Complete records of all feeds were kept and the weight of animals "in" and "out" showing pounds of beef produced. This was called "pasture feed stage". When these animals reached about 700 pounds they were transferred to "finish feed" lots where very little if any green feed was used in the ration.

The following tables cover a seven month period, January 1 to July 31 for the "pasture feed stage".

TABLE 1. Showing kinds of food used, quantities and gains in weight of all animals during 7 months, January 1 to July 31, 1952

Average daily gain per head -- 1.7 pounds

<u>Kind of feed</u>	<u>Pounds feed per head day</u>		<u>Pounds of feed per pound of beef produced</u>
Green chopped alfalfa	18.3		11.10
Grain, barley and milo	2.4		1.43
Alfalfa hay	4.7		2.76
Silage	2.3		1.35
Beet tops	.2		.10
	Total	28.4	16.74

Since the market price of feed is constantly changing, to determine costs, apply current price rates.

TABLE 2. Showing variation in gains per head and ration feed for five months, March to July (inc.) (from same records)

Month	<u>Pounds of feed per head day</u>					Total lbs.	Average gains per head day
	Green alfalfa	Grain	Hay	Silage	Beet tops		
March	25.6	3.4	5.0	12.6	.3	46.9	2.4
April	34.0	2.0	5.7	10.5	.2	52.4	1.73
May	38.6	4.22	6.25	3.56	.05	52.68	1.68
June	35.3	3.93	7.60	.73	.01	47.12	1.95
July	27.45	2.42	8.35	1.49		39.71	1.00

Another feeder uses a slightly different method to which he credits advantages. This is different in that the alfalfa is cut and windrowed and permitted to dry down to about 20% moisture. This usually takes from 12 to 24 hours. In this case a windrow pickup is installed in the forage clipper and the chopping is done from a windrow. The rest of the procedure is as in green chopping. He says that one man has been doing all the work in mowing, raking, chopping, hauling and feeding for 600 to 800 head.

The ration per head day he has used for this feeding is

	<u>Pounds</u>
Chopped green hay (20% M)	19
Grain (barley & milo)	2
Alfalfa hay	1.8
Cotton seed meal	<u>.33</u>
Total	23.13

He says the advantages over green chopped are

1. costs are no greater in harvesting
2. no losses from bloat
3. avoids scouring
4. less trouble with equipment

#### DIFFICULT TO GET ACCURATE FIGURES

It has been difficult to get accurate figures on inputs of feed, costs and gains and comparative costs with other methods of feeding. This method has only been in operation for the past year.

Following are observations and opinions expressed by feeders who are using this method.

1. All interviewed were of the opinion that for them it was far superior to pasturing or hay production.
2. Yield of feed per acre was estimated to be 20 to 40% greater than pasturing and somewhat greater than cutting for hay.
3. Handling cattle - cattle more gentle in feed lots, shade, fresh water, less exercise compared to pasture. Can weigh bunch of cattle without a roundup. Cattle sick or off feed will be observed sooner and treated earlier, less bloat, and flies can be controlled better. These factors tend to increase gains in weight more economically.
4. Pasturing requires costly fencing, causes trampling of alfalfa stand, destruction of ditches and irrigation facilities and labor and cowboy work in herding cattle in and out of fields.
5. Disadvantages or difficulties. Some reported mechanical difficulties in operating the clippers - and high cost of equipment, also great care is necessary to keep feed from spoiling in the trough. Care is also necessary to avoid bloat, especially when changing from dry to green feed. This is best accomplished by starting with a small amount of green feed and increasing gradually until desired amount of green feed is being fed.

The above are opinions expressed by feeders.

Some local farm records made on pasture, pasture supplemented with hay and grain and on dry feed are shown for comparison as follows:

### SUPPLEMENTING PASTURE WITH CONCENTRATES

The following table shows the results of a test conducted through the summer of 1938 to compare the feeding of long yearling Hereford steers on alfalfa pasture alone versus feeding alfalfa pasture plus hay and grain.

(Based on average per head)

	Lot 1 Alfalfa pasture alone	Lot 2 Alfalfa pasture plus concentrates
No. head	91	254
Average days in period	113	124
Net weight at start (pounds)	619	673
Net weight at close (pounds)	716	860
Total net gain (pounds)	99	187
Average daily gain (pounds)	.87	1.5

Feed consumed

Kind	Tot. Amt.	Av. Daily
Ground barley	670 lbs.	5.4 lbs.
Alfalfa and barley hay	1257 lbs.	10.1 lbs.

The following table shows results of yard feeding of Hereford steers wherein Hegari silage made up a high percentage of the ration. The cattle averaged 21 months of age when marketed.

No. head	32
Average days fed	164
Net weight at start (pounds)	530
Net weight at close (pounds)	927
Total net gain (pounds)	347
Average daily gain (pounds)	2.11

Feed consumed:

Kind	Total amount
Ground milo	619 lbs.
Cottonseed meal	63 "
Flax screenings	31 "
Ground barley	84 "
Ground milo heads	210 "
Hegari silage	2400 "
Alfalfa hay	600 "
Ground Hegari fodder	141 "
Average daily concentrates	7.35 "
Average daily dry roughage	4.50 "
Average daily silage	14.61 "