## you can REDUCE BEEF COW

A study of beef cow owners＇records in this part of the country shows returns may vary as much as $\$ 100$ per cow．There are many reasons for this but one of them is costs in wintering the herd． Farmer records show this cost can vary from as low as $\$ 25$ a cow to as much as $\$ 75$ ，depending on the type of wintering rations used．
Many Midwest farmers feed more and better feeds to their beef cow herds during winter than is really necessary．You must meet the minimum nutritional requirements in order to produce a profitable calf crop and maintain good cow po－ tential for future calf crops．However，this can often be done by using more low quality forage crops and crop residues．
Grain is not required in the wintering ration of beef cows that produce feeder calves．A study of over 5,000 calves from commercial cow herds in Missouri indicates no significant increase in daily gains，weaning weights or percentage of calf crop by feeding grain in the beef cow wintering ration． In fact，breeders have found that if cows are too fat they have more calving trouble than thinner cows．When grain is fed it will only mean an in－ crease in wintering costs．

Just what are the minimum nutritional require－ ments of a brood cow？The following table will give you an idea of the requirements and how these can be supplied．
Meeting A Beef Cow＇s Daily Food Requirements

|  | Contents 首 | Variour Rations， | Daily <br>  |
| :---: | :---: | :---: | :---: |
| Dry matter，lbs．．．．．． 18.0 | 13.5 | 19.0 | 12.6 |
| TDN，lbs．．．．．．．．．．．．．． 9.0 | 7.6 | 9.0 | 8.3 |
| Dig．Protein，lbs．．．．． 0.8 | 1.5 | 0.3 | 0.8 |
| Carotene，mg．．．．．．．．．． 55 | 123 | 57.2 | 215 |

A full maintenance ration requires 0.8 pound of digestible protein and nine pounds of total di－ gestible nutrients for an 1,100 －pound cow．If these requirements are met，you＇ll not have to worry much about dry matter requirements．Cows will browse on dry grass，if weather is open，and fill requirements．


These cows are being fed hay in a sheltered area．Hills， thickets and other natural protection help you cut winter－ ing costs．While still subject to some of the elements，pro－ tection from the wind helps these cattle retain body heat which would otherwise be lost by radiation．As a result， cattle maintain body weight on less feed．


Self－feeding is a tremendous labor saver in livestock chor－ ing．However，it is not the best way to save or stretch feed supplies．You＇ll most likely have less waste with hand feeding．If you must self－feed，however，there are several ways you can keep waste to a minimum．Here an electric wire is being used in the bunker silo to keep cattle from trampling too much silage underfoot．In this particular case waste might be reduced a little more by lowering the wire about four inches．

All rations in the table are adequate to meet the requirements of the beef cow and keep her in fairly good shape．In extremely open weather you may want to cut back a little on the daily sup－ plemental feed as cattle will be picking up some feed from pastures and stalk fields．

One problem you may run into when trying to stretch winter feed supplies is vitamin A deficiency， It can cause cows to abort．Vitamin A is supplied through carotene contained in grain and rough－ age．If you＇re feeding a roughage extremely low in carotene content，such as straw，deficiencies can occur quite easily．Best safeguard is to feed some alfalfa hay or alfalfa cubes．It can make quite a difference in your calf crop percentage next spring．

Crop residues offer a good opportunity to stretch stored feed supplies．But if you＇re grazing cattle on corn stalk fields or even wheat stubble you＇ll want to provide some extra protein．Tests in South Dakota indicate that feeding one pound of $40 \%$ protein cubes to cattle on winter ranges will carry them through winter in reasonably good shape．In these tests no supplemental feed，other than protein，was fed except when snow cover prevented grazing．Based on this you should be able to carry a cow four months at a cost of about $\$ 5$ a head for supplemental feed．
If there＇s a full cover on the ground and you have to use stored feed，ground corn cobs can be used to help cut costs．In Lowa experiments an all－ silage ration was compared with one in which ground corn cobs made up $60 \%$ of the dry matter． Cows were fed about 11 pounds of cobs and 22 pounds of silage，plus 1.6 pounds of soybean meal， salt and mineral．With this ration there was a sav－ ing of about 30 pounds of silage daily and winter－ ing costs were reduced about $\$ 5$ per head．


