CROP REPORT of the FARM DEPARTMENT.

D. A. KENT.

Following is a report on two fields of corn, a small field of barley and the storage of ensilage. We have attempted to tell just how we raised the crops, how much labor was applied, what the labor cost us and what the crops yielded. Eliminating as much theory as possible. There is a very wide difference of opinion among farmers about some of the methods of raising crops. These differences are settled best when every gentleman only describes his methods, accurately, and appends results. A comparison of these results will settle questions much more rapidly than vague theorizing over what we merely think we have done.

CORN FIELD NO. 1

Contains 21¼ acres. The soil is a rich, sandy loam. Judging from its appearance, it had been cropped with corn the previous year. The corn had been cut and hauled off, and then the land fall plowed. Previous to this crop, the field had been in pasture.

The seed bed was prepared by cultivating deeply, once, and harrowing twice. The corn was planted between the 29th of April and 5th of May. The planting was in hills, varying from three to five grains. The variety Early Mastodon. When the corn was about eight inches high, it was thinned to three stalks in the hill. The planting was about four inches deep. As soon as the root sprout began to show, the field was cultivated again, harrowed twice, and rolled before the corn was up. When the corn showed the third leaf it was cultivated, deeply and closely, both ways as rapidly as possible. The cultivator shovels were large, sharp and set to the row ; shields being placed in the usual manner to prevent the dirt from covering the corn. The crop was cultivated twice more, at proper intervals, and layed by, June, 24. The

rows were cultivated with a seven tooth cultivator (once in a row) on the 13th, 14th, 15th and 16th of July, to prevent the growth of weeds. The climatic conditions were not favorable for the highest condition of growth of corn. The months of April and May were dry and cold, thereby retarding germination of seed and early growth of plants. The data showing the precipitation for these months has been mislaid. The precipitation for June was 4.08 inches, July 3.21 inches, August 3.33 inches, and September .6, making a total of 11.22 inches for these latter months. The precipitation was therefore light. It was also unfavorably distributed. The month of September was so dry, hot and windy, as to dry or shrink the ears of corn. We were compelled to use extraordinary care in conserving what little moisture we had, that we might mature anything like good crops. We accomplished this by the use of the roller, harrow and cultivator; using the roller before the corn was up and then again on some of the fields after the corn had been cultivated once. The use of the roller not only aids in conserving moisture, but also heat. A thermometer placed in the soil of a rolled field will show a higher temperature than one placed on an unrolled field. The first killing frost occurred October 6th, making the period of developing this crop, 150 days.

The following table will represent the labor performed in the preparation of the seed bed, planting, cultivating and gathering the crop :

Plowing, 80 hours, @ 23 cents per hour	$18.40
Planting, 21½ hours @ 23 cents per hour	4.94
Cultivating, 221½ hours, @ 23 cents per hour	50.94
Harrowing, 31 hours, @ 23 cents per hour	7.13
Rolling, 10½ hours, @ 23 cents per hour	2.41
Thinning, 48 hours, @ 15 cents per hour	7.20
Hoeing, 28 hours, @ 15 cents per hour	4.20
Gathering, 258 hours, @ 20 cents per hour	51.60
Total	$146.82

The yield was seventy-five bushels per acre. This yield was largely reduced because the corn failed to ripen fully. The failure was due to the fact that the variety was large and late growing. Other varieties ripened, notwithstanding they were planted fourteen days later.

Amount of corn raised on the field, 1,598 bushels. Total cost of labor $146.82. Cost of labor per bushel, 9.22 cents.

Corn field No. three was cultivated in precisely the same manner as field No. one, except that a different variety of corn was planted (The Improved Leaming), that the planting was done on the 13th, 14th and 15th days of May, and that part of the field was rolled after the first cultivation. The field contained 14.55 acres. One-half of the field was a loamy sand, and one-half a sandy loam. The soil of the entire field was in a highly active state and grateful condition. Following is the table of the labor expended in raising the crop:

Plowing, 42⅓ hours, @ 23 cents per hour	$9.77
Planting, 17⅓ hours, @ 23 cents per hour	4.02
Rolling, 10 hours, @ 23 cents per hour	2.30
Cultivating, 133 hours, @ 23 cents per hour	30.59
Harrowing, 21⅓ hours, @ 23 cents per hour	4.94
Hoeing, 40 hours, @ 15 cents per hour	6.00
Thinning, 78 hours, @ 15 cents per hour	11.70
Gathering, 207 hours, @ 20 cents per hour	21.40
Total	$90.92

The yield per acre was 86.5 bushels, making a total yield of 1,258.5 bushels. The total cost of labor was $90.92. Cost of labor per bushel, 7 22 cents, which is two cents per bushel less than the rate of field number one. By intense cultivation and proper rotation, most of the farms of Iowa would produce from 75 to 80 bushels of corn per acre, and under favorable climatic conditions still more.

Barley Field.

The field of barley was a level plat of upland. The soil was a sandy loam. The plat had been fall plowed. Following is the table of labor expense:

Plowing, 20 hours, @ 23 cents per hour	$ 4.60
Cultivating, 8¾ hours, @ 23 cents per hour	2.01
Harrowing, 8½ hours, @ 23 cents per hour	1.95
Sowing, 4 hours, @ 23 cents per hour	.92
Cutting, 5 hours, @ 30 cents per hour	1.50
Shocking, 16⅔ hours, @ 15 cents per hour	2.47
Stacking, 30 hours, @ 15 cents per hour	4.50
Threshing, 18⅓ hours, @ 15 cents per hour	2.77
Threshing, 250 bushels @ 3 cents per bushel	7.50
Total	$28.22

Following is the proceeds of the crop:

250 bushels barley, @ 60 cents per bushel	$150.00
4 tons of straw, estimated	16.00
Total	$166.00

Any practical farmer will observe that there is too much time involved in the items of shocking and stacking. This extra expense is due to a mistake of the man operating the binder. The barley was slightly green when cut, and the operator made the sheaves so large that the shocks had to be handled over several times to effect proper curing of the straw.

The gross proceeds of the crop were	$166.00
Cost of labor	28.22
Net proceeds	$137.78

Cost of labor per bushel, 11.2 cents. The variety of barley sown, Manshury. This variety takes more kindly to our soil and climate than any that we have sown and it has proved, for us, a profitable crop.

Following is the account of three silos, numbers one, two and three:

The corn for each silo was cultivated in the ordinary manner of field corn. The first silo was filled with an Early Leaming variety, which ripened in about 90 days. The second silo was filled with Mammoth Cuban, and the third with Red Cob Ensilage corn. Each variety being a later growth.

Silo No. 1.

This silo was 11½ by 17 feet and 18 feet high. It was filled to a depth of 15 feet and then covered with chaff to a depth of one foot. No weights on the top of the ensilage. The diffusion of vapor entirely rotted the chaff. This silo was filled with the Early Leaming variety, cut low. It required five acres to fill it.

Following are the expense items in filling:

Man and team, 38½ hours, @ 23 cents per hour	$ 8.85
Man without team, 187 hours, @ 15 cents per hour	28.35
About 1½ tons coal for engine, @ $3.00 per ton	4.50
Expense of repairs on ensilage cutter	2.00
Allowing 40 pounds per cubic foot	$43.70

The silo contains 2,782 cubic feet, or 55 tons. Making an average cost of 79½ cents per ton.

Silo No. 2.

This silo contains 2,295 cubic feet or 46 tons. It was filled with the Mammoth Cuban corn, cut high. No chaff nor any other covering was put over the ensilage. The silo contained the fodder of 3.3 acres.

EXPENSE ITEMS.

Man and team, 38⅓ hours, @ 23 cents per hour	$ 8.85
Man without team, 130 hours @ 15 cents per hour	19.50
About 1⅓ tons coal, @ $3.00 per ton	4.50
Total	$32.85

Average cost per ton of ensilage, 71.4 cents.

Silo No. 3.

This silo contained 3,315 cubic feet or 66 tons. It was filled, partly with the Red Cob Ensilage fodder, and partly with Yellow Dent fodder, the corn being husked from the stalk before cutting, preparatory to hauling. The Red Cob Ensilage fodder was green, but the Yellow Dent fodder was entirely dry; scarcely any green blades being present. The fodder was cut across the ends of the plats so that each load was half green and half dry; and by the time the ensilage was cut and delivered into the silo, the green and dry fodders were thoroughly mixed. The ensilage of this silo was weighted by placing a layer of boards over the top on which was evenly distributed, three tons of stone. It required 3.64 acres to fill the silo.

EXPENSE ITEMS.

Man and team, 45⅓ hours, @ 23 cents per hour	$10.46
Man without team, 190 hours, @ 15 cents per hour	28.50
About 1⅓ tons coal, @ $3.00 per ton	4.50
Total	$43.46

The above items include the cost of husking. Crediting the silo with the corn husked from the fodder, which was 314.64 bushels, at 15 cents, and which we deem a very reasonable valuation, we have the following:

314.64 bushels of corn, @ 15 cents per bushel	$47.19
Expense making and storing ensilage	43.46
Leaving a balance favor of the silo of	$3.73

This cornless ensilage, notwithstanding one-half of it was made of dry fodder was very good. The ensilage in silo number two was highly relished by the cattle. Each cow would eat 100 pounds daily, not leaving even the heavy stalk ends. Silo number one also contained fine ensilage, except considerable waste at the door and around the walls by reason of the admission of air.

It is probably not necessary for us to say that the first great point in storing ensilage is the construction of s lo whose walls and bottom are air tight. We observed the same rules in making the ensilage that we would in making gilt edge hay, except that the fodder was not wilted. The fodder was cut entirely free from wet by reason of dew or rain. The corn was well dented, having advanced to the fodder point. The ensilage was cut one-half inch long. Each silo was filled as rapidly as possible. Two men were kept tramping the ensilage while it was being stored.