strong blood, the clear eye and the well-balanced intellect, the clean mind and the moral strength. The city needs many of them, but the farms need to keep still more.—[The Farmer.

Clipping Clover.

After the winter wheat, rye, barley and even oats are cut, the newly-seeded clover often comes on rapidly, and sometimes blossoms and seeds before frost. In such cases the following year's crop is not what it should be. Clover is a biennial. Normally, it should require two years to produce seed, but sometimes it will accomplish it in one. Once seed production is accomplished, the parent plant has performed its function, and usually dies. It does not always die outright, for clover, like other plants, has a tendency to the perennial habit, and a number of plants will survive and make a certain amount of growth the following year; but, generally speaking, a good crop is not to be expected after the stand has once seeded, and the nearer it comes to the seeding stage, the less the subsequent growth.

This principle, by the way, points to the economy of cutting the first clover crop early, as the increase in the amount of the second crop far more than makes up for a slight loss in the yield of hay from the first.

When the new seeding promises to reach the blossoming stage before winter, it should be run over with the mower and clipped off in good time to prevent blooming. Besides thickening the stand and ensuring a much better crop next year, this will prevent ragweed, burrs and other weeds from seeding, and thus do much to keep the farm clean. If there are too many weeds to cut with a scythe, or if the clover is liable to bloom, it will pay well to clip it with the mower in the fall.

THE DAIRY.

Story of Two Cows.

By Wilber J. Fraser, Chief in Dairy Husbandry, University of Illinois.

Rose is a bovine matron of rare attainments. She has been growing old now for several years, but has manifested no intention of retiring from the activity of a remarkable career. She has shown what character and achievement can be put into the routine of a quiet life. With a comely form and physical vigor, she has combined a high intelligence and a very amiable temper. While she has developed to the utmost a secretive disposition, this very thing has brought her into prominence. She has risen from the common herd, and her fame has gone out from Urbana to the uttermost parts of the State, and beyond. Like most great men, she had a good mother, and she has improved upon this inheritance right well.

A TEN YEARS' RECORD.

The peculiar, perhaps unparalleled, record of this cow is that for ten years' she has produced an average of 384 pounds butter-fat, or 448 pounds butter per year. This is 1.23 pounds butter for each and every day of the 365—yes, of the 3,650 days. Her largest record for one year was the enormous yield of 580.6 pounds butter-fat—677.3 pounds, or more than one-third of a ton of butter. This was worth, at 22 cents per pound, $149.

In the same herd is another cow, bearing the unearned title of Queen, and she has another record—a six years' record of 152 pounds butter-fat, or 177 pounds butter per year. While this is almost a fourth better than the average cow in the United States, yet Rose produced two and a half times as much butter-fat as Queen for that long period. And in an exact comparison for one year, Rose made more than three times as much butter-fat as Queen from exactly the same feed, both in kinds and amount, and with the same care.

HISTORY OF ROSE.

Rose was purchased by the experiment station when she was four years old, and she is now past sixteen. She was picked up among the cows offered for sale at $50. Her record here given is for ten years in succession, including the times when she was dry, and she has been doing practically as well since.

Her longest milking period in this time was one year and eleven months, completed when she was fourteen and a half years' old; her shortest, one year and ten days, and the average, one year five and a third months. In this time she produced seven calves, four of them being heifers.

ONE INCOME $96; THE OTHER $38.

At 25c. per pound for butter-fat—or 22c. per pound for butter—the annual income from Rose is $96, and that from Queen $38. The income from Rose is $58 more than that from Queen. But this does not represent the difference between these cows to a man in the practical dairy business.

ONE ROSE EQUALS HOW MANY QUEENS?

If the market price of feed is such that it costs $35 per year to keep a cow, and Queen's keep costs all of that, Queen would return an annual profit of $3, and Rose a profit of $61, or as much as twenty Queens. If the price of feed were $37 per year, Queen's profit would be $1, and that of Rose $59, or as much as fifty-nine cows like Queen.

But if these cows should be better fed, or the price of feed should advance so that it costs $40 per year—not an unusual cost for a well-fed cow—Rose would make a clear profit of $56, while Queen would lack $2 of paying her board and lodging. The greater the number of such cows as Queen, the further they would be from equalling one Rose. It is figured that the calf, skim milk and manure are well worth the labor in caring for the cow.

This means that Queen is entirely out of the list of cows worth keeping; there is absolutely no business in keeping her a single day.

ROSE'S RECORD FOR TEN YEARS.

Butter-fat, 3,840 lbs., at 25c.	$960 00
Skim milk, 73,526 lbs., at 15c. per 100 lbs.	110 29
Seven calves (4 heifers), at least	50 00
Total income	$1,120 29
Cost of keep, at $40 per year	400 00
	$ 720 29

A GREAT LIFE WORK.

This is a pretty good record for one cow, considering that there are at least three years besides these ten—and it remains to be seen how many more—yet to be added to her life achievement. The total clear profit from this cow is already beyond $1,000.

In the ten years Rose produced more than thirty-six tons of milk. Hauling a ton a day it would take a man and two-horse team a month and a fifth to haul this milk.

SEVERAL LIKE ROSE.

One cannot go out and be sure of buying such a cow as Rose. If the seller knew he were parting with this kind of an animal at four years of age, the price should be about $300 or $400. But here and there her ten-year record is equalled, and even excelled, for a less number of years. In the same herd at the university is another cow that has produced 405 pounds butter-fat on the average for three years. She was bought from one of the dairy herds of the Elgin region for $85. In 18 Illinois herds, numbering 333 cows, three—or one per cent.—were found to have a record for one year better than the average record of Rose. But in the same general class of excellent producers with Rose were found 30 in this 333—or 10 per cent.—that produced 300 pounds or more butter-fat in one year, and the average production of the 30 was 342 pounds, meaning an income of $85.50. Cows of this kind can be bought at a reasonable price, and, better and easier still, they can be raised from the heifer calves of high-producing mothers.

Making Soap on the Farm.

THE ONLY COW WORTH KEEPING.

A cow must give two and a half gallons of four-per-cent. milk per day for nine months a year to be worth keeping. This means a total of 225 pounds of butter-fat, an income of about $56 per year, and a profit of $15 or more above the market value of feed. And yet, there are a multitude of cows in Illinois dairy herds below this standard. Of the 333 cows in 18 herds carefully tested by this station, 226, or over two-thirds, fell below this standard, and the 226 averaged but 164 pounds butter-fat for the year—only 12 pounds above Queen. In three of these herds, numbering 47 cows, not a single animal came up to this standard.

A QUEEN WITH A LARGE FOLLOWING.

But this Queen is of more interest to the farmer than may at first appear. She holds sway in a large realm. Some of her subjects are to be found on almost every dairy farm, but often they remain in easy disguise, forming a sort of secret society. And, strange to say, their concealment is unwittingly provided by the owner himself—by his guessing at their production instead of weighing and testing the milk. But they are every one dead beats, and will never pay for their board. Their pass-word is graft, and their grip that of the sheriff. The more of them the farmer keeps the poorer he is. There is only one way to find out their record—to weigh and test the milk.

74 AVERAGE ONLY 126 POUNDS BUTTER-FAT.

Among the 333 cows of the 18 Illinois herds referred to above, were found 74—or 22 per cent.—that were as poor as Queen, or poorer, in production of butter-fat. More than every fifth cow of the 333 failed to earn her keep. The average production of these 74 was only 126 pounds butter-fat—far below that of Queen.

Quite unsuspected these Queens have everywhere honeycombed dairy society, but they have no rightful standing in the stalls of breadwinners, and should be unmasked by the scales and test and sent to the only destination to which they have an honest ticket—without stop-over or return—the butcher's block. Look out for these idle, spendthrift Queens. They may not look much different from worthy cows, but they are different—vastly different.

The Necessity of Salt for Dairy Cows.

The Wisconsin Experiment Station has been investigating the effects of the lack of salt upon milking cows, and give the results of their work in the twenty-second annual report. Several cows were put upon a no-salt ration and their condition noted, also the effect upon quantity and quality of milk yield. The test extended with some cows over a year, while others so clearly showed the need of salt in from two to ten months, that they were given it to save their lives. In nearly every case the need of salt was most emphatically shown at calving time. The conclusions of the experimenters are given herewith:

"In every case the cows exhibited an abnormal appetite for salt after having been deprived of it for two or three weeks, but in no case did the health of the animal, as shown by the general appearance, the live weight, or the yield of milk, appear to be affected until a much longer time had elapsed. This period of immunity varied with individual cows from less than one month to more than a year.

"In every case there was finally reached a condition of low vitality, in which a sudden and complete breakdown occurred, from which recovery was rapid if salt was supplied. This stage was marked by loss of appetite, a generally haggard appearance, lusterless eyes, a rough coat, and a very rapid decline in both live weight and yield of milk.

"The breakdown was most likely to occur at calving or immediately after, when the system was weakened and the flow of milk large. In general, the cows giving the largest amount of milk were the first to show signs of distress. They all suffered less in pasture than when confined to the stable.

"The behavior of the cows in these trials indicates that their food contained sufficient chlorine to maintain them in good health, while dry, for an indefinite period, and it seems probable that, under conditions existing in Wisconsin, a dry cow or a steer would suffer no great inconvenience if given no salt except that contained in the normal ration. It is calculated that the ration given in these experiments contained chlorine equivalent to about .75 oz. of salt per day, and it is assumed that this is the minimum amount of salt required per 1,000 pounds live weight to sustain an animal that is not producing milk. If this amount is not present in the food, it should be supplied directly.

"In addition to this, a cow should receive enough salt to compensate for the chlorine contained in the milk produced. In general, this will require about .6 ounce of salt for each 20 pounds of milk given. A slight excess will do no harm, and it is recommended that dairy cows in Wisconsin be given at least 1 oz. of salt per day. Exceptionally heavy milkers will require more than this.

"The uniform results obtained with all cows employed in these trials, indicate beyond question that in Wisconsin and other regions similarly located, salt in addition to that obtained in the