

DAIRY AND POULTRY.

INTERESTING CHAPTERS FOR OUR RURAL READERS.

How Successful Farmers Operate This Department of the Homestead—Hints As to the Care of Live Stock and Poultry.

A New York Poultryman.
At the Wisconsin Round-up Institute held at Monroe last week, C. E. Chapman, of Ferrisville, New York, made an address on poultry raising. He is a young man and has been in the business but a few years, but he exhibits the true instincts of a business-like poultryman. Only about six years ago he began to keep poultry. His first move in the business was to reduce everything to figures, to know just how many he had, how much they cost, how much feed they consumed, how many eggs they laid, and how great the profits on all his fowls and on each fowl.

It may be an encouragement to our poultry-loving readers to know his record for one year. We will take the year 1898, which he began with 600 hens, partly brown and partly white Leghorns. He has settled down to the Leghorn fowls, believing them to be the best layers. The record will be of great interest to those that take interest in the laying capacity of each breed. Some have put the Leghorns as low as 150 eggs per year, while most books that give the capacities of the breeds, set the standard at 200 eggs. This latter figure has long been regarded as very inaccurate, though doubtless a flock could be bred up to that point by careful selection.

For the entire year the 600 hens lay on an average 164 eggs each. These eggs brought on the average 21¢ per dozen, the total receipts for the year for eggs being \$1,800. He must have had a large number of birds and have had numerous cockerels to sell, as his receipts for stock sold was \$170. The manure from these flocks had a value of \$270. This would be 45 cents per fowl for each of the 600, but it probably represents the droppings of also of all the new stock produced. The total receipts were \$2,240. The expenses were: Cost of feed, \$650; labor, \$300; interest on money invested in fowls and buildings, \$50. This gives the total expense as \$1,070. The net profit of the flock for that year was \$1,170. The net profit per bird was \$1.95.

This, of course, was not done by letting the fowls hustle for themselves, as they are compelled to do on many farms. The birds have been well housed and well fed.

The houses are well and warmly built, each one holding about 100 fowls. One of the houses as illustrated on a chart, had the following proportions:

Length—Thirty feet.
Width—Twelve feet.
Lower story—Six and one-half feet wall or posts.

Upper story—Four feet to plates.
Windows—2x2½ feet on one end, on side 1x2 above and below.

One idea brought prominently to the front in the diagram of Mr. Chapman is that too much light should not be given, especially on the south side. For this reason the windows are small and few in number. The reason as advanced by Mr. Chapman is that the poultry house should not undergo rapid changes of temperature in the winter. When there are large expanses of glass on the south side the winter sun pours through them, heating the rooms to almost a summer temperature. The

exchange contains the following: "An alleged joke is now current to the effect that an old lady troubled with obesity went to consult a physician. 'Madam,' said the man of science, 'you are troubled with an excess of adipose tissue.' 'Gracious!' said the old lady. 'I wonder if that is what makes me so fat.'"

We are told that certain kinds of bacteria produce certain kinds of flavors in butter, and certain other kinds of bacteria produce sour milk, and certain conditions bring forth certain kinds of bacteria. Now all this is an old truth in a new garb and sometimes we do not recognize it any clearer than the old lady recognized her surplus fat under the name of "adipose tissue."

When we ask the scientist how to kill the bacteria that produce sour milk he will tell us to apply heat to the vessel after removing all the milk adhering to the vessel. This is what we do when we wash and scald in the old-fashioned way; and similarly when we inquire what to do to produce the bacteria that will produce the fine flavor in butter, he will give us the same instructions that any good dairyman would give us without regard to science. Intelligent dairymen have demonstrated that in order to get good products from the dairy it is necessary to observe certain rules, and now scientists are telling us why it is necessary to observe these rules.

We should aim to make ourselves master of all the information the scientists have to give us, as such knowledge can not fall to be of advantage to us, but we should not follow blindly everything the scientists tell us, unless experience and hard common sense are on the side of the scientist.

Lady Cake.—Take two and a half scant teaspoonfuls flour and after sifting mix well with it one heaping teaspoonful Royal baking powder and sift again; add one and a half teaspoonfuls powdered sugar, blended with half a teaspoonful of butter; beat the whites of two eggs to a froth; add gradually to the flour half a teaspoonful of milk; follow with the sugar and the butter, and next the whites of the eggs, finishing up with a teaspoonful of the essence of almond. Bake in a hot oven for three-quarters of an hour.

Small Home-Made Cheese.

New small cheese may be made for home use in this way: The milk of two cows may be set at night in a deep pail in cold water. This will check the rising of the cream. The morning milk may then be mixed with the milk of the previous evening, after it has been warmed to the same heat as the new milk. The curd, of which one ounce is enough for 100 pounds of milk and 10 pounds of cheese, is stirred in the warm milk in a proper vessel. This is covered and left until the curd is made, and becomes tough enough to be lifted with the finger. It is then cut by a long-bladed knife into squares of an inch, so as to liberate the whey.

When the whey has partly separated it is dipped off by means of a shallow dish without breaking the curd. The whey is then heated to 100 degrees and is poured on to the curd, which is covered to keep in the heat. After half an hour the curd will become tough enough to lift without breaking, when the whey is all drawn off and the curd is broken up with the hands and heaped to keep it more of the whey to drain off. This will take up half an hour. The curd is again broken and the whey carefully pressed out by hand, so the cream may not escape.

It is then left another half hour, when it is again broken and salted at the rate of two ounces of finely-ground salt to seven pounds of curd, and is placed in a wooden hoop or mold, lined with a clean cloth, dipped in the whey. The curd is pressed into the mold firmly, and needs no weight or pressing. When it has settled in the mold, it is taken out in the cloth and set on a board and turned once a day until it has formed a crust. It should then be rubbed with butter and turned occasionally during the curing, which will require two or three months in a temperature of about 60 degrees.—N. Y. Times.

Incubator Eggs.

The Farm-Poultry notes that some breeders of good repute are offering sittings of eggs at prices which are right for good stock, and in addition, advertise incubator eggs at a very great reduction by the hundred. Sitings will be priced at \$2, \$3 or \$5, perhaps, while the incubator eggs from the same breeder go for, say, \$6 per hundred. The inexperienced buyer who wants to make a start in poultry knows something of the reputation of the breeder and the strain of birds, and seeing the eggs thus advertised, argues to himself that there is no use in paying sitting prices when the prices by the hundred from the same flock are so much cheaper, and so he orders the larger quantity at the lower price, sets the eggs, hatches out fifty or sixty chicks and is grievously disappointed. The eggs are culs, of course; they are from birds that the breeder would not sell or use himself for breeding stock; they are simply fertile eggs that will hatch a fair per cent. of market chickens of the breed named, but they are not what the buyer expected to get. The buyer is disappointed and the breeder suffers in reputation, for whenever the former speaks of the latter to others it will be to the effect that he bought some eggs from Mr. — and they hatched out scrubbs. A breeder when he sells "incubator eggs," should for his own sake be sure that the buyer knows what he is getting, and is getting what he wants. There is no wrong in selling "incubator eggs," provided the matter is understood, but there should be neither deception by the seller nor can he for his own sake afford to permit self-deception on the part of the buyer.

Bacteria in the Dairy.
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Testing Homoeopathic Remedies.

While I rely on spongia in most all cases of roup, yet it is not a specific by any means, writes E. W. Amsden in Southern Rancier. In the first symptoms, running at the nostrils, and a short, quick sneeze, acconitum nux as a remedy is preferable. When there is a thick discharge from the nose, mercurius is indicated. We have found hepar-sulphur, in alternation with spongia, effective as a cure when spongia alone would not be sufficient. Spongia is very effective when there is a rattling sound in the throat. For croup, first clean the cancerous substance off the surface; rinse the mouth and throat clean, and apply either burned, pulverized alum or powdered borax, with a little sulphate of copper mixed with it; put hepar-sulphur in the drinking water.

Here is a remedy for warts, or sore head, as it is commonly called. It is a species of roup. I have had fowls' combs and wattles filled with these little cancerous sores before they were discovered. I first bathe the head in warm water and vinegar or boracic acid. Soak the sore spots well, then wipe dry with a clean cloth. Now take a piece of coppers, dip it in water and rub it on the sore spots; it will kill the cancerous matter of the sore and dry it up in 12 hours. This is a never-failing remedy for cancer sores. You need not be afraid of getting it in the eye, for it will do no hurt. If the fowl is feverish, give nuxite in the drinking water. Epsom salts, one tablespoonful to a quart of water, is a good preventive. Homoeopathic remedies are easily administered, and if the right remedy is selected, they are a sure cure. Fowls are very susceptible to homoeopathic treatment.

Ten Fatty Foods.

In conversation with a party not long since the question of feeding poultry came up and several expressed themselves very decidedly against withholding the corn or hickweed, emphasizing his views with the statement, "A hen knows when she has had enough as well as a man." This was true, perhaps, but did not touch the point. If an animal is fed an excess of fat, no matter the source, it is stored on her body. A certain quantity is necessary to supply the fuel and provide for the wastes, but over and above this the excess goes on to the body. It shows itself especially on the intestines, around the gizzard and in clotting the body, interfering on the space necessary for the action of the natural functions and particularly preventing the formation of eggs. If this food be continued there is sure to result a fatty degeneration of the liver, Pale combs, black combs, dead hens under the roosts in early morning, loss of the use of their legs, are all symptoms of this one disease the result of overfeeding fattening food. Without doubt the loss in this direction is greater than any other in the poultry yard.—Ex.

English Butter Market.
The competition in furnishing fresh butter for the English market grows daily keener. Once the Danes and it all their own way, and Danish butter was in demand at the highest prices. Seeing that the dairy schools had accomplished for that little kingdom, other nations followed suit and began a vigorous rivalry for the London market.

Sweden has been so successful in her efforts that by many her product is reckoned even superior to the Danish article. French butter at one time ranked very high, but carelessness and the admixture of oleomargarine caused it to fall in disrepute. It has only just regained its lost footing by exercising extreme care in the preparation of the article and by the rigid exclusion of all adulterating substances. By herculean efforts Australia has succeeded in placing on the market a butter of excellent quality, and there is no room to doubt the rapid betterment of the Canadian and American articles. The butter standard throughout the world has steadily risen. In nothing are the benefits of competition more clearly shown than in this one product. The average butter has improved more within the past decade than during the whole of the preceding century.—World.

Doubts Tuberculin.
Dr. W. L. Zull, chairman of the veterinary faculty of the University of Pennsylvania, declares that tuberculin will not react in every case of tubercular disease, but will react where no tuberculous exists, and therefore is not reliable. He says it is positively dangerous, as it may arouse a latent or encysted tubercle into activity, and thus cause an aggravated tuberculosis that will render the milk unfit for food and hasten the cow's death, whereas without tuberculin such a cow might enjoy health and yield perfectly harmless milk. Prof. Gullehan of the veterinary school at Berne, Switzerland, expresses the same opinion and adds that because of the great loss in cattle and danger in milk by the use of tuberculin, he thinks it will never be rendered obligatory by law. Dr. Zull concludes: "My position is this: I cannot, do not, and will not endorse the indiscriminate use of tuberculin as an agent for diagnosis tuberculosis in dairy cattle. Every new report we get of the general arbitrary use of this substance proves it unreliable. It is not used by law in any country of the world."

Paving Clay.—Towns in Florida have a great boon in the so-called paving clay found near Bartow in that state and elsewhere farther south. It is not solely clay, but a combination of sand, clay and oxide of iron. It breaks up under the pick when dug, and needs no other preparation to be put upon sandy streets of Florida towns. It is laid on several inches deep, wet, and then rolled. The result is a hard, smooth surface, that resists the wear and tear of traffic. Railway companies in Florida have used the material for approaches to stations and crossings.

FARM AND GARDEN.

MATTERS OF INTEREST TO AGRICULTURISTS.

Some Up to Date Hints About Cultivation of the Soil and Yields Thereof—Horticulture, Viticulture and Floriculture.

Rainfall and Drought.

To the Farmers' Review: The subject of rainfall and how to meet a drought is being a theme for much discussion of late and one, too, of very great importance.

That there has been a change wrought in the country extending from the base of the Rocky mountains to the Alleghenias east, and from the Lakes north to near the Gulf of Mexico south in the distribution of the rainfall is an observant fact, and no one who has given the subject any consideration for the past ten and twenty years but knows a change exists, which in many respects has been for the better and in others quite the contrary, on the whole, however, believe that the advantages gained far exceed the disadvantages incurred by the change.

Atmospherical disturbances seem to occur about the same as they did twenty years or more ago as they course across the country from the west to the east, but they are not laden with the moisture they formerly would be, consequently the precipitation of rain falls is materially lessened in a belt of country traversed by latitude lines 37 to 42 degrees. As the amount of rain extending across the country depends largely upon the degree of temperature held in the atmosphere and the vapor arising from water-logged areas, or inundations of rivers, lakes, etc., by rapid accumulations of great bodies of mist which are more or less influenced by certain conditions for or against rapid absorption and precipitation for areas of country to east of that place.

A quarter of a century ago the source of the Ohio, Missouri and Mississippi rivers was a vast wilderness, covered with a dense growth of woodland that usually held the snow falls of winter until spring and as it melted more slowly the water was held back accordingly to find way down the rivers and into the great Mississippi basin under the influence of a heated temperature that absorbed through vapor large quantities which was carried by the force of air currents across the country to the north of east until cooled by contact with a lower temperature that like a recoil precipitated the accumulated mists over a region interspersed with ponds, lakes and rivers, which for days and weeks was discharging again their surplus by routes water-logged with drift in woodland and logs that kept the air moist by day and the night wet with dew, so that if a drought occurred at all east of the "Father of Waters" it was late in the season and of short duration.

Now that is all changed, the result of reclaiming tens of thousands of acres by ditching and tile draining, and the removing of the timber from the surface land, laying bare to the sun and winds, so that with the approach of spring and higher temperature the water departs more rapidly and the rainfall less frequently and of shorter duration, and results in a drier state of weather conditions and prolonged droughts.

Three years ago I made a trip west in company with an old 59'er who was among the first to open placer mining way up at the head of Black Hawk canyon, Colorado, and he pointed out to me the spot where they opened up, and on the 4th day of July, 1859, began making boards out of pine logs with a rip saw for sluice boxes, by rolling them out on skids, one end resting against the hillside and the other end resting in forks propped to trees standing further down the slope. The timber covered the great "divide," hillside and gulches for hundreds of miles, but now I am informed that a tree was not to be found within twenty miles of Silver City that would make a creditable log, and scarcely a shrub or stump could be seen anywhere in the vicinity of those little mining towns, having all disappeared for use in the mines and for fuel, leaving the surface bare and unpenetrable to rain and melting snows that soon disappeared down the gulches and out into the streams leaving the foothills.

At the time my friend was located there it was in the summer and water flowed in the ravine, but when I was there, and understand most of the time now, perfectly dry.

Have a friend who roamed the plains and foothills as a cowboy for ten years, but the last ten has been settled on a farm near the Platte river in Western Nebraska, who says that stream, with his first acquaintance of it, maintained a current all the year, and in spring time great volumes of water flowed through its channel, but in recent years does not carry any such quantities at any time, but is dry in numerous places a good portion of the time.

Another friend writes me that irrigation canals and ditches in Colorado are extending their lines that draw their supplies from streams leaving the mountains so as to deprive the Platte and other tributaries to the Missouri, which no doubt has a telling effect on the country eastward from the influence caused by larger streams of water flowing through it, and greater evaporation and subsequent precipitation over a large portion of the central states made drier by artificial means late years.

My observation is that recurring atmospheric disturbances are not laden with the cumulous clouds to the extent they were a few years ago and "settled" rain is a thing of the past by an overshadowing of the earth for days of inky darkness and fallen mists.

All in all think it is an imperative duty now that farmers, gardeners and

stockmen, not only prepare to meet a drought, but make their arrangements; that it's here now and to stay, so that less dependence on rainfall must be subservient with man's command to lead the way.

Upland, Ind. Mello.

The Open Drain.

Since the tile drains have come into such general use, we find that there is a general antipathy against open ditches, and efforts are made by almost all farmers who drain to substitute tile for open drains, says Drainage Journal. The advantages of covered drains over open ones are so apparent, and so strong are the arguments for underdrains, that it is not strange that the true office and use of open ditches should be underrated. The objections to the open ditch are several, some of which are the following: It takes a strip of land which with an underdrain would be valuable for cultivation, and makes it of no use except for a water course. It divides fields into shapes inconvenient for cultivating. It requires considerable work annually to keep it free from weeds, grass and other obstructions. It is a troublesome barrier when it is desired to draw lands from one field to another. All of these are objections and often serious ones.

It may be asked: What advantages can be offered which will offset these objections? In many cases, none; in others the single advantage that the large open ditch will carry the drainage water of several fields which the farmer desires to drain, while tile, of reasonable size and cost, will not.

In accomplishing successful drainage, as in any other enterprise, we must use the means which are adapted to the desired end. Farmers are finding that they are trying to force more water through their tiles than they are capable of carrying, though many cases of failure are owing to inaccurate laying and obstructed outlet.

The use of open ditches is to carry the excessive flood water that sometimes falls on our land in a short time, and above all, to give a ready and free outlet to all tile drains which are discharged into it. A farmer once remarked to the writer: "The trouble with tile drains is that I must have a place for the water to jump off and get away at the outlet." He stated the initial truth of underdraining. We must get the water away from the outlet. Carrying out this present often makes the open ditch a necessity. Especially is this true in flat prairie lands. Slopes are the water courses for the natural drainage of surrounding higher lands, and when deepened in the center by means of a large open ditch, they afford an excellent outlet for the drains, and also give ready exit for surface water which gathers in large quantities from rapidly melting snows; from rains that fall when the ground is frozen, and from excessive rainfalls.

Some Fertilizer Tests.

The Ohio Experiment Station has begun a series of experiments in which the three crops, wheat, clover and potatoes, are grown in rotation, with and without fertilizers of different kinds. The experiment is to be carried on both at the Central Station in Wayne county, and at the North Western Sub-Station in Fulton county, and was begun in Wayne county in 1894 by planting potatoes on land that had been two years in corn, following grass, and on newly cleared, yellow sand of the oak opening region in Fulton county.

The plan of fertilizing is similar to that which has been pursued in the experiments in continuous cropping at Columbus except that the fertilizers are used in both smaller and larger quantities than at Columbus. The soil on which this test is being made at the Central Station is a light clay. It was thoroughly drained in the fall of 1893, with three-inch tile drains laid 36 feet apart. The planting was done in good season in 1894, and the fertilizers applied broadcast. The potatoes started off well, but their growth was seriously retarded by the excessive drought of the summer.

The general results of the experiment were that while partial fertilizers, containing only one or two of the three essential elements of fertility, produced some increase of crop, that increase was irregular and uncertain; but when a complete fertilizer was applied there was an increase of crop in every case, and the increase rose regularly with the quantity of fertilizer applied, the largest yield, and in Wayne county the largest net profit, after paying the cost of the fertilizer, coming from an application of 480 pounds dissolved bone black, 320 pounds nitrate of soda and 200 pounds muriate of potash, a total of 1,100 pounds per acre, costing about \$20. This application increased the total yield by 65 bushels per acre over the total yield of the unfertilized plots adjoining.

On the yellow sand in Fulton county where the unfertilized yield was much smaller than in Wayne, the increase from fertilizer was much smaller than on the better land in Wayne, and where incomplete fertilizers were used it was still more irregular. In several cases failing to pay the cost of the fertilizer; but the complete fertilizers paid their cost in every case, with potatoes at 60 cents per bushel, the largest total increase here being 47 bushels, from the same mixture that produced the largest increase in Wayne.

This mixture carried approximately 50 pounds of nitrogen per acre, equivalent to 60 pounds of ammonia, 75 pounds of phosphoric acid and 150 pounds of potash.

Shade Trees in Paris.—After a shade tree on the boulevards of Paris has died its place is supplied by a full-grown successor, which is hauled from the nearest forest, with its matre of earth around the roots sustained by boards, matting, etc., and then transported on a special wagon to the new site. With soil attached, such a tree weighs, on an average, twenty tons.