Farm Interests

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"Experience Has Shown That the Right Use of Fertilizers, Barn Manure, Proper Tillage, Good Seed and Crop Rotations, Insure Farm Prosperity."

CORN VITALITY.

Factors Brought to Light in a Valuable Experiment.

(From Farmer's Review.)

The perennial question of cattle markets, grain and produce prices, etc., will soon give place to the question of corn.

Where shall we plant it?
How shall we prepare the soil?
What variety shall be use?
Was it ripe when picked?
How and where has it been stored?
What per cent. of it is vital?

These will be the problems in the minds of the good farmers of the middle west in a few weeks.

The rustling fields will soon answer these questions. There will be sturdy, vigorous, uniform stands, and there will be poor, irregular, sickly stands of corn.

We are in the habit of dilating on the mammoth corn crops of this fair land. Yet, have you ever thought of the revolution it would cause in our corn crop if the children in the farm home were induced—nay, even allowed to select the seed corn and test it in anyone of a dozen different up-to-date methods? Illinois would not be satisfied with an average corn yield of 33 bushels, nor would Iowa, with its $200-acre land, feel that 31 bushels per acre was a paying corn crop.

Our corn would yield almost double its present return and its quality would be materially better.

I venture the assertion that 25 per cent. of the corn seed planted in the

Strings of Mature Corn Assembled After Four Months' Storage.

corn belt every spring is dead. Now, why is this?

Have you tested your seed corn? I ask each of a number of average farmers, and the following are some of the common answers:

1. No. Don't believe in it. I've always got good corn without it.
2. Well, no. You see, we have been too busy this year
3. No, I sprouted one or two ears, and they were good. Guess the rest will be all right.
4. No. I haven't tested my corn. "After seedtime—the harvest" the Good Book tells me, and I am willing to rely on Providence for the future.

Various other excuses.

Now, for the givers of the first and last answers, there is no hope. Their good fortunes are luck, and their misfortunes are acts of Providence, and that is an end of the whole matter.

The busy man, and the "half-cooked" man may be brought to see the light when the financial side of the question is shown up.

But the farmer boy or girl! No excuses from them. "How do you test corn?" is their query.

Fortunately for this old world, this is the attitude of the rising generation toward most practices that make for progress.

Now, there have been numerous statements made relative to conditions which influence the vitality of corn. Many of these statements seem to be reasonable, but they have not been checked with actual tests. In view of these facts, and in order to illustrate and impress truths that are already known, but not heeded, I planned a set of experiments for my research class in farm crops at Iowa State College of Agriculture, Ames, during the winter of 1908 and 1909.

The purpose of this experiment was to ascertain the effect on the vitality of ripe and unripe corn, of storing it under different combinations of temperature and moisture.

Fifty ears of corn were harvested from a big field of yellow dent, about the time the corn was entering the dough stage. These ears were divided into five strings of ten ears each. When the corn was well matured, fifty ears as near uniformity in ripeness as possible were picked. These again were divided into five strings of ten ears each. A string of each was stored under the following conditions:

	Temperature.	Humidity.
Station 1.....	High	Low
" 2.....	High	High
" 3.....	Low	High
" 4.....	Low	Low
" 5.....	Outside protected from precipitation.	

ture of the atmosphere. Conditions for Station 4 were least successfully obtained since low temperature causes relatively high humidity under average conditions

At least four of these conditions have its representative on the average farm, to-wit:

1. Temperature high, humidity low—the farm attic
2. Temperature high, humidity high—the kitchen ceiling or stable ceiling
3. Temperature low, humidity high—the average cellar
4. Outside storage—driving sheds, etc.

For the experiment we chose:

(1) A laboratory on the third floor.
(2) A cellar.
(3) A section of a cold storage room.
(5) A driving shed.

A string of each of ripe and unripe ears of corn was placed in five small wire cages, built to keep out rat and mice. Each of these cages was then provided with a thermometer and an hygrometer (an instrument to measure the amount of moisture in the air). The cages were stored in the places mentioned above.

Each day about noon readings of temperature and moisture were taken at each station.

Once a month six kernels were taken from each ear in each cage and planted in sand plats in a greenhouse. At the same time six other kernels were placed in a sawdust germinator and kept under conditions suited to sprouting.

The students studied the sprouting kernels very closely, from month to month. Records were made of the relative strength of germination, and of the total per cent. of germination.

Some very interesting points in corn storage were illustrated by this experiment. Space does not permit our giving tables of temperature readings and germination percentages. Let it suffice for us to point out some observations made during our experiment. They are:

1. Where humidity was high, in the case of Stations 2, 3 and 4, moulds grew upon the corn. These low forms of plantlife undoubtedly sapped vitality from the kernels. The mold was found to be abundant on the unsound corn, but very little of it appeared on the matured corn.

2. Germination tests showed a rapid falling off in the vitality of unsound corn stored where the humidity was high, such as it is in the average cow-stables. The unsound corn stored where frost could get at it suffered materially as soon as winter frosts came.

3. In Station No. 4, although we did not get low temperature and low humidity, we did not get a condition where there was no circulation of air. This condition was found to be deadly to seed corn.

4. The effect of bad conditions of storage was much less marked in the case of the corn that was well matured when put into storage, than it was upon unsound corn. However, the same general effects were shown up in the tests of ripe seed corn as were evident in the tests of unsound corn.

Now, the practical lessons of this experiment are as follows:

(1) Pick well matured ears for seed corn.

(2) The best condition for the storage of seed corn is in a storehouse whose temperature never goes below freezing, and whose air moisture is slight.

(3) Seed corn should be stored where there is a good circulation of air. The chemical changes which are going on in the dormant seed require a circulation of fresh air in order to remove the poisonous gases produced.

(4) Test every ear of seed corn before using it in the field. The greatest corn expert living could not have predicted the great variations in vitality that the experiment showed up, from a study of the ears or kernels.

The time spent in testing seed corn returns a profit of several hundred per cent. at harvest.

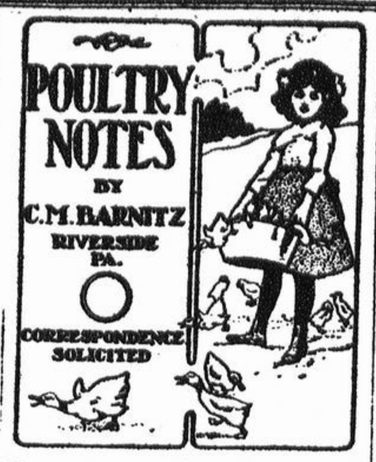
Let every "corn-belter" test his seed corn this spring. It pays!

THE VALUE OF EXPERIMENTS.

A letter from a western agricultural college says:

"When any experiment at the agricultural college fails in the future the public is to know about it. That is to say, the details of the experiment are to be printed exactly as if it had succeeded."

The question is, how can an experiment that is properly carried out be a failure? Does not every experiment prove something—positively or negatively? If a man should set out to prove that sawdust was the best material to feed to live stock and the animals should all die from starvation the experiment would not be a failure. It would be a disappointment to the one who had failed to prove his point, but it would not be a failure, because it would prove absolutely that what had been supposed to be true was not true at all. Therefore, the experiment itself would be a success. A good friend has told us of an incident during his service as president of a western agricultural college. The director of the experiment had announced an experiment that was to be conducted with Russian apples. After some time had elapsed our friend asked the director why he did not publish the results. "Publish," said he, testily; "why the blamed thing did not come out the way I wanted it to!" That is not the true spirit of research. The result is not to be forecasted. The experiment should be conducted first, thoroughly, open-mindedly, and the conclusions fairly drawn upon the basis of results.—From Ohio Farmer, February 28, 1914.



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GREEN RUNS FOR SUCCESS.

Certain professed poultry philosophers are preaching that poultry does as well on a bare yard as on a clean, green sod run

If their theory is rot they at least add proof to the belief that the fools aren't all dead yet.

There must be vegetable growth to take up the poison of fowl droppings, or the sick ground becomes a breeder of tuberculosis and cholera germs and incubator of tape, round and gape worms.

When greens are fed by hand they are not always before the fowl, may

Photo by C. M. Barnitz.

ON GREEN VELVET SOD.

not be what it needs nor be there when it needs them nor in the shape to render them so digestible as when a fowl can pull them at pleasure, not speaking of the expense and bother of furnishing them in the unnatural way.

Growing greens attract worms and bugs, which make the fowls exercise and are necessary to their health, and this animal protein is much superior to even cut bone and to beef scrap and blood meal. The latter two products are often only deadly rot, fit only for fertilizer.

But why argue with hot air highbrows?

Cast not thy pearls before bullheads. Nature's habitat for fowls is the green sward, with the green tree to afford shade and shelter from sun and storm and the crystal spring and animal and vegetable life for food and refresh-

Photo by C. M. Barnitz.

A TUBERCULOSIS SHAMBLES.

ment, and the fancier who sticks close to nature has the fowls of vim and vigor and wins the long green.

Geese, ducks, chickens, turn grass into greenbacks. Grass saves grain, and the wise poultryman provides plenty of land, so that the ground is never eaten bare and thus a menace.

Our pictures tell the story. The first shows one of our yards.

Our flocks are known for vigor, egg capacity, and we are compelled to go elsewhere for subjects for post mortems there is so little disease.

The second shows a neighbor's bare yard. On this polluted yard he lost 58 of 108 chickens from tuberculosis and has quit chickens for keeps.

DON'TS.

Don't sit down and cry over a failure. Hens don't cry when eggs don't hatch. They cackle and lay some more and try, try again. Go thou and do likewise.

Don't be a pessimist. When it's cloudy, crow like a rooster; when others knock, be a bully booster.

Don't work without system, but beware of these get-rich-quick poultry systems.

Don't let envy make life's cup bitter. Let not malice poison the chalice. If you would have life one sweet song, then help your fellow man along.

THE LEGHORNS BEAT THEM ALL.

The Plymouth Rocks are dandy fowl;
The Reds and Dottes ditto;
The Buckeyes and the Dominiques
And Javas fine also.

The Brahmas, Cochins and Langshans
Are not to be sneezed at.
They are the giants of the coop
And bully roasted fat

The Dorkings, Red Caps, Orpingtons,
Are English, don't chew know,
And when they're fattened up with milk
They really aren't slow.

Then come the Polish and Hamburg,
The Houdan and Crevecoeur.
We mention also the La Fleche
And Gamecock with sharp spur.

The Cornish, Malays, Sumatras,
Are in the Standard too.
You'll find also some just for show
If you the book look through.

Minorcas, Andalusians,
Anconas and Spanish, too,
Are near the top for laying eggs.
But all their legs are blue.

The Leghorns we have left to last,
Because these other birds,
When you keep tab on laying stunts,
Are seconds and slow thirds.

White Leghorns don't wear feather legs,
They don't put on much meat,
But when it comes to laying eggs
You bet they can't be beat.

C. M. BARNITZ.

KURIOS FROM KORRESPONDENTS

Q. Does changing hens from one pen to another affect their laying? A. If there is a marked difference in pens and nests they often quit laying for a few days. We make our pens and nests all alike and the hens feel at home in all of them.

Q. Is the White Leghorn really a nonsitter? A. It cannot be said of Leghorns that none get broody. Some do, and the hotter the house in summer the more get the hatching fever, but broodiness among Leghorns is as nothing when compared to the Cochins, Brahmas, Rocks, Dottes, Reds and other screeching members of the doorknob cluck sorority.

Q. Is it true that brassiness on a rooster's back is a sign of strong vitality? A. No.

Q. Do geese do well in close confinement? A. No. Their eggs are often infertile, goslings weak, it is almost impossible to keep the pens clean and the geese lose stamina, as they lack exercise, cleanliness and necessary vegetable food. A good grass pasture and plenty of water for best results and profits with geese.

Q. I notice some exhibitors feed tallow to their show birds. Why do they do this? A. They imagine it puts a gloss on the surface of the plumage. If a fowl is in health and clean or washed right it needs no grease and we doubt if such indigestible stuff affects the plumage at all.

Q. How may oats be made more digestible for fowls? A. By grinding, hulling, clipping, scalding, soaking or sprouting. When clipped the sharp points are cut off by machinery.

FEATHERS AND EGGSHELLS.

The Panama-Pacific International exposition to be held at San Francisco in 1915 is to have the largest poultry show on record. The poultry exhibition will occur the last two weeks of October, 1915, and it is planned to have 15,000 entries representing the distinctive breeds of all the nations of the earth.

When eggs are infertile the male bird nearly always gets the blame and the ax. But the hen is often sterile, so don't butcher that rooster too quick. This defect is brought on by disease, overfat, breakdown of the oviduct through excessive laying or feeding egg stimulant, or the fowl is sterile from birth.

When you find a puny rooster in a flock of big hens or a cock bird the same size as the hens make up your mind there will not much come from those pens. The standard weights of cock birds and cockerels all are higher than those of hens, and a flock does not look right nor will it breed right where the male is undersized.

It's a wise plan to take the rooster out during the breeding season for a feed by his lonesome. The heavy laying hens often gobble part of his share, and the gallant fellow often goes hungry, and thus infertiles or weak chicks result.

In 1912 Canada imported 7,476,242 dozens of eggs from the United States and shipped to this country but 17,408 dozens. In the same year Canada imported over 3,000,000 pounds of butter, of which 2,139,844 pounds were from New Zealand and 929,318 from the United States.

A little home in the country is a thought that often enters into the minds of city people amid the hustling, bustling, hurly burly, nerve racking life they live. And we hope the day comes when they have that little cottage with the roses and honeysuckles climbing up the porch and the garden, and hens and birds and fruit trees and the cold crystal spring. Where there's a will there's a way. Work and save and you'll get it some day.

Those who breed Silver Polish should avoid immature matings. To get good crests, excellent markings and hard feathers two years and up is the proper age for breeders.

The laugh is always on the fellow who writes to the poultryman, "All the eggs you sold me were infertiles and rotten." He does not know that it requires a dead germ to make an egg under incubation turn to a rot.

One American incubator manufacturer has thus far sold 400,000 incubators and claims these have brought a billion chicks into the world. This is but the report of one firm and slightly indicates the vast advance of artificial incubation.

L. M. Barnitz.