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Prof. Benj. Irby, late Professor of Agricul-ture, Agricultural and Mechanical College, Rai-eigh, has become a regular contributor to this department. All questions relating to the farm, garden or orchard will be answered by Prof.

### SOME RECENT BULLETINS.

Facts in Them Boiled Down for The Progressive Farmer Readers.

Kentucky bulletin No. 70 treats of the woolly mullein, one of Kentucky's worst weeds, and of gapes in chickens. On the latter subject we quote the two following extracts, the theory being that chicks get the gapeworm eggs from earthworms:

"The result of value to the farmer obtained from this preliminary experiment is that keeping chicks for several weeks after they hatch on a plank of the farm. - Wallace's Farmer. floor will prevent the gapes. It is my present opinion that the same result would be obtained by simply elevating an earthen floor above the surrounding level, so that it would not retain moist-It must be remembered, though, that after the disease is established in a brood it will be conveyed from one to another through the medium of food and drink, and in such case a plank floor would not alone save it. In case the disease should be introduced by chicks which had contracted it elsewhere the proper treatment would be to isolate affected individuals as soon as discovered and medicate the drinking water of the rest.

"Since my observations on the dis ease were made I have read a valuable article on gapes and gapeworms, written by the French naturalist Megnin. He asserts that the use of pounded garlic with the usual food has been made to completely eradicate the disease among pheasants in Europe. He recommends the use of one garlic bulb to ten pheasants each day, and the same proportion would in all probability be sufficient in the case of the common chicken. He supplements this treatment with special care in the mat ter of drinking water, using only pure water and changing it several times a

Geneva (N. Y.) bulletin No. 132 de tails interesting experiments to determine whether a cow could yield butter fat from feed that contained no fat. It was found that the cow readily converted both the carbohydrates and protein of her feed into butter fat, and at the same time gained in body fat. In fact, the milk was almost as rich when the feed contained no fat as when it contained an abundance of fat. This confirms the theory that richness of milk depends on the cow and is little influenced by the feed.

Ohio bulletin No. 88 gives a most interesting account of a series of co operative experiments by former students of the State Agricultural College scattered throughout the State. Being familiar with the scientific teachings and methods of the college and experiment station, they are found to be a very great and reliable help to the station in its more widely extended experiments and they have taken hold of the work with a great deal of enthusiasm. This is a valuable suggestion to other stations, nearly all of which are connected with the State agricultural colleges.

## PLANT PUMPKINS.

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BY-

If some one nursery man in the United States had all the pumpkin seeds in the country and would adver tise them with the usual enterprise, go into pumpkin growing, even if the advertisement contained nothing more hone the less valuable now that the the contrary, says Dr. True, seed is in every one's hands and the by our grandmothers, one of the pleas ant remembrances of old age.

asily grown than pumpkins. They

were taken to cut off the ends of the vines so as to prevent too much growth grown on an acre. Most of our readers, suggest that between now and corn planting, which will begin within a few days after this reaches our readers. they secure good seeds and grow pump supplemental food for the cattle and hogs on the farm. We call it a supplemental feed. The pumpkin is nineratio of about one fifth, or somewhat time." richer in flesh-formers than oats. The benefit of the pumpkin is that it furnishes succulent food until frost comes, that the seeds have a very beneficial action upon the kidneys, that it fur nishes variety very beneficial to all kinds of stock, and is practically so much clear addition to the food stuffs ----

#### A GOOD SOUTHERN ROTATION

Divide the land into three equal fields or portions. Put wheat in the first, corn in the second and cowpeas in the third the first year. The second year sow wheat and peas, plant corn after wheat and peas after corn. In this way crimson clover can be sown on the wheat stubble in the fall and plowed under in spring for corn. Thus the humus in the soil will be increased from year to year and the peas and clover will store up a supply of nitro gen, so necessary in the growth of crops. I believe from experience that in this way commercial fertilizer on wheat will pay a bigger profit than any other way it can be used. - W. W. Bishop, Knox Co., Tenn.

#### WORK OF EXPERIMENT STA-TIONS.

The Elizabeth City Economist, in its issue of week before last, wished to know what good is being accomplished by our experiment stations. As we believe they are doing a good work, but are doing it quietly, and do not believe in blowing their own trumpet, we wish to say a word for them. But of course they are not perfect.

Our experiment station workers are devoted to a promising line of work and we are reaping even now some of the expected benefits of their investigations. The magnitude and import ance of station activity warrants our continued attention to the work, its scope and influence. With this idea in view I wish to call attention to a thoughtful article which was published in the editorial columns of No. 7, vol. 9. Experiment Station Record. Dr. A. C. True is the editor of this valuable periodical. After reviewing the station publications for the fiscal year ending June 30, 1897, and stating that 98 were compiled bulletins of information and fertilizer analysis bulletins, he says:

'If we add the bulletins in which small experiments are made a sort of peg on which to hang a large amount of compiled data, it may safely be said that only about one half of our station publications contain accounts of investigations regularly conducted by the stations with a view to extending the boundaries of our knowledge regarding the science and practice of agriculture. These statistics deserve serious attention chiefly from the fact that it is believed they represent a tendency in the experiment station enterprise in this Edgar L Vincent, of New York, talks country which, unchecked, will lead about the hay crop in a recent issue of to very bad results."

It is justly stated that in the early and rapid expansion of our stations t compiled information should be pub the farmers of the United States for lished in many stations. This would before you want it this year to look it the next two years would be crazy to lay the foundation for the intelligent over carefully. Accidents may hap understanding of the original work to pen. It is well to keep a few extra be undertaken by the station, and the knives, guards and bolts on hand in than the true statement of the value necessity of large compilations would, case of an emergency. of the pumpkin as a stock food. It is presumably, soon pass away. But on

"The success of the stations has stimrecollection of the pumpkin pies made ulated the demand for practical infor-hurry. The team is soft and the hands maton, and the stations have increas ingly yielded to the temptation to en There are few things that are more large their popularity by sending out row afternoon. Let it lie as long as numerous bulletins of information even possible the day of cutting; then rake hay be planted in the corn field with though these might be prepared at the and put up carefully to guard against he corn, or, better still, about the time expense of original investigations. So he corn is beginning to come up so strong has been the influence in this mow another piece. When the dew is hat their vines will not interfere with direction that of late it has been seri- fairly off, open out that cut the day ultivation, and in this way a catch ously argued by some leading station before. Shake in out thoroughly so rop, and more, one that costs nothing workers that after all it should be the that it will get well aired before drawreept the seed and the labor of plant chief business of the stations to give ing. It takes longer for hay to cure them, can be secured. They may the farmers such information as they early in the season than later. Just

planted in hills about eight, or perhaps practice or defending themselves twelve feet, each way, and allowed to against the ills common to their art. take possession of the patch. If pains! A more subtle and, as we think, a more pernicious result of this tendency has been its effect on the investigations at of vine, more pumpkins by far may be tempted by the stations. Many superficial experiments have been under however, will prefer the pursuit of the taken by them in response to the depumpkin by the corn route, and we mand by the farmers for results of immediate practical application. It is easy thus to give the impression that a large amount of work is being done at the station when, really, most of it kins in sufficient quantity to furnish a may be of comparatively little value. Oftentimes experiments are tried in one line for a year or two and then something else is substituted as the tenths water, and the rest having a popular demand shifts from time to

After pointing out the danger of dwelling chiefly on the immediate prac tical needs of the farmers and listening to their cries for help in this or that direction, the necessity is emphasized of inquiring diligently every year as to the proper limitation of station work. The following forcible sentences are used:

"It will be strange, indeed, if the agencies established for the express purpose of advancing the boundaries of knowledge regarding the science of agriculture as related to its practice can successfully follow any different path from that pursued by other similar institutions. How would the medical professor or even the general public regard the proposition that the specialists who, in their laboratories and hospitals are bearing almost the entire burden of establishing the principles and methods on which the prac tice of medicine is now making some real advance, should give up their researches even for half their time and devote themselves to writing popular treatises on the causes and remedies for prevalent diseases? They might thus, perhaps, save some valuable lives which will be lost because of ignorance of the present teachings of medical science, but who cannot see that it is far better to keep these specialists at their work of investigation and try in other ways to widely disseminate the sults of their researches."

The entire article, fresh from the pen of Dr. True, should be carefully read and re read by every one though the quotations will present food for thought. Especially his closing para graph is earnestly commended:

"We believe the time has come for the friends of the experiment stations in this country to declare themselves boldly in regard to the proper limita tions of their work. The stations have a great fund intended for original research in behalf of agriculture. There is more need than ever before of scientific effort for the benefit of our agriculture and more promise than ever before of successful results from scientific investigations. The popularity of the stations has led to the practical diversion of much of their funds in the direction of pseudo scientific effortand the dissemination of general informa tion. It is time to call a halt, Make the stations what they were intended to be, institutions for original research. Man them with the best experts and hold these men to their legitimate work. Keep the fountains of new truth pure and bubbling, enlarge their capacity, guard them against defilement. In this way alone will the future of our agriculture be made secure."

## HOW IS YOUR HAY CROP?

Our valued dairy correspondent, Mr. the Epitomist.

If you did just the right thing you put away your mowing machine in was necessary that a large amount of good repair last summer after having, he says; but it would be best a few days

When the grass is fairly in blossom, start the mower. The first few days it does not pay to be in too much of a are, too. Begin easily. Cut down today as much as you can get in to morpossible storms. The next morning grown in a patch by themselves need to aid them in improving their before dinner try to get time to turn it Pianter.

over once more. After dinner, if the hay cut yesterday is dry, get it in. If not, you may be compelled to put it up again. Rake and put up what was cut this morning, and so on, day after day. In this way one may keep his work well in hand. I think it very unwise to go on and cut down a great deal more than one can handle in any day, no matter how good the weather may appear.

Last year many farmers in this part of the country got in a hurry and mowed a large part of their grass at one time. The weather for a number of days had been very fair and warm and everybody thought it would con tinue to be so. But

'The best laid schemes o' mice and men Gang aft a gley."

Suddenly the weather changed. It began to rain, and rain fell for thirteen days in succession. Every one was discouraged. Tons upon tons of hay were ruined, much of it not having been put in at all. Having begun early, I had just nicely finished when the wet weather came on, and, while I could not help feeling sorry for those who suffered so severely, still I did congratulate myself on keeping so "close one day. Then, if I lose at all it will rule to go by one year after another.

#### HE HAD A RIGHT TO GRUMBLE

An exchange says a farmer was arrested and fined the other morning for selling some adulterated milk, adul terated only with harmless water. He wore at the time a suit of all wool(?) badly adulterated with shoddy, and boots whose soles were badly adul terated with paper or wood shavings. For breakfast he drank adulterated coffee, his meat was spiced with adulterated pepper, his cakes were puffed up with adulterated baking powder, his pickles soured with adulterated vinegar, his pie was seasoned with adulterated spice, his wife was all out of sorts because she could not make good bread out of adulterated flour that was passed off on her as the best; had a life and death struggle with a piece of adulterated cheese, winked hard with both eyes as he broke two teeth on a piece of steak cut from a charming (11) two year old beef, put aside the oleomargarine with the remark that he had got to draw the line somewhere, and took a chew of plug tobacco, or something highly flavored with copperas and molasses manufactured from sawdust and old woolen rags; in fact, he saw and felt the adulterations which ever way he turned, and he had never heard of the adulterators being arrested or fined. Yet there are those who blame the farmer for complaining or being discontented.

# IMPROVED CORN.

The success of the Mesers. Woods in producing and growing seed corn is an example of what I have often insisted upon, that the improvement of our corn crop must come from selection from corn grown here and not from far-fetched sorts. Now, let me suggest as I have done before, that the improve ment must be kept up by selecting from the lower ears so as to get the corn more sturdy and not so tall, and to continue the habit of bearing more ears than one. Our Southern corn has gotten into the habit of making one ear because the only selection practiced has been to take the finest ears, and these are usually the top ears of the stalk, which tend to develop the habit of making single ears. But the lower ears tend towards fixing the habit of making ears still above. Nearly all of our farmers will tell you that they prefer to have one big ear on the stalk of a mammoth cob kind, but I have never seen a man who could give a good reason for preferring the big cob tall growing corn to the sturdy twin eared sorts.

tall. I would suggest that the future selection should be towards the lessen ing of the height and thus enabling the plant to develop better in close plant faults of our Southern corn, and they | the same land, and still keep up the necessitate wider planting. Any improvement in a plant should take in the character of the entire plant and not a single quality. Having gotten so good a starting point, Mr. Woods has only fertilizer, and then run a light harrow to select and properly to develop a wonderful variety of corn. I wish that I was so situated as to work at it my self, for it seems to be the corn needed for the middle South. Had I not planted another sort in my plat experiments I would have planted this corn the present year, and hope to do so another season.-W. F. Massey, in Southern broadcast some early maturing cow-

BUSINESS METHODS IN FARM-ING.

The current number of Home and prize letters from North Carolina farmers. The first letter is entitled "Apply Business Rules," and is by Mr. McKim mon, of Laurinburg, N. C. Mr. Mc-Kimmon says:

make Farming Pay?" it has occurred to me that perhaps the reason so many people fail to make it profitable is be cause they do not apply to it simple business rules and methods.

For instance, a farmer begins the new year without taking any account of what he has on hand with which to make a crop; goes to his merchant and buys what he thinks he needs, and most of which he could make on his own farm, and begins the crop. He keeps no account of what he buys or what his expenses are. Makes improve ments on his farm, but keeps no item zed account of them and does not know what they cost him.

When his crop is gathered he finds he has not made enough to pay for what he has expended. The man beto the wind." I make it a practice to comes discouraged and says there is who pursues this course and goes on state of mind is very nearly correct.

> But on the other hand let the farmer know to a cent what he has on hand at the beginning of each year and then keep a strict itemized account with his farm and also with each different crop that he cultivates so that he can know the ones on which there is margin and also the ones on which he loses money. Every farmer ought to know what each product of his farm costs him.

It would be a strange manufacturer that would spend his life in manufacturing an article and not know what it cost him to make it, and this is what most farmers are doing. And then let him get all the information he can from reading, experimenting and thinking and bring all his knowledge to beer on his own individual case, the circumstances and surroundings of which will decide the best course to pursue. Applying the methods and rules that bring success in other callings of life, he will make farming a financial success and also enjuy the many blessings and privileges that go with it and which no other calling has.

The second letter is on 'Old Ways Must Go," and is from the pen of a Halifax county farmer, Mr. J. W. Weller, of Ringwood. He says:

He who makes two bushels of grain to grow where only one grew before, is a benefactor to his race. This will not apply to cotton, under present conditions of acreage. Farmers are slow in giving up old methods, and adopting new ones. But to make farming profitable in this age of new inventions and fast living, we must make changes in the old style of farming in the South. Men of other occupations combine for mutual benefit and protection and seek after and adopt new ideas and methods for improvement and profit in their business. But the average farmer seems to be prejudiced against innovations on the plan of farming, and will heed neither precept nor example if it embodies a change in his ''daddy's'' style of farming. Some of them continued for a long time to go to mill horseback, with the corn in one end of the sack and a rock in the other end to balance it. Some of them to day stick to the plan of thirty acres to the mule. This much land must be planted, if it is only slovenly cultivated during the season. This is what may be called the extensive style of farming, with the intensive figures of profits.

There is a class of tenant farmers who will not be induced to change by precept or example. But some farm ers are seeking for light, for new methods that will enhance the profits of Mr. Woods says that his corn grows farming. These can help each other by enchanging views and experiences through the columns of farm pa pers I want to give my plan of get ing. Mammoth stalks are one of the ting more than one crop a year from fertility of the land.

First a crop of oats. It will pay to top dress the oats with some suitable over them in the spring. As soon as the oats are harvested, plant in some early field corn, using guano or cotton seed to quicken the growth. Early and quick cultivation is now needed. As soon as the corn gets growing well, peas. These will keep down grass and

weeds, and will mature a crop of peas unless a very early frost nips them. As soon as the corn is ready to cut and get off the land, turn in the hoge to eat the Farm contains two very interesting peas. Thus the land produces four crops, oats, corn, peas and pork, and the land is left in good condition for next year. I believe in cowpeas for our Southern lands. I have a kind with which I raise two crops a year. In studying the subject, "How to Plant in first part of May and gather ripe peas to plant the latter part of July. (But I have none for sale.)

If the farmers will read and heed the good points made known in the prize letters published in farm papers and act upon them, we can't fail to improve in farming. More rational and profitable methods must be adopted. Actual farming must take the place of pretended farming, and profits from farming must be shown our children. if we wish to keep them from flocking to the towns and cities as fast as they grow up to see where the money is made. The trouble is to get farmers to agree and work together. They will meet and talk and all agree that the main leak is in not raising home supplies chough; then separate, go home and plant cotton and tobacco to raise money to buy corn, meat, flour, etc., cut no more than I can care for in any no money in farming, and the farmer which they could all raise at home. Guano has been one curse to the Southbe comparatively little. This is a safe from year to year in this discouraged orn farmer; not that it does not increase the yield, but they get to depending upon this, and neglect to raise home manures.

To make the farm pay, I would say: Stop the extensive and adopt the intensive method of farming. Cultivate well, and do not "lay by" the crop too soon. Get the latest and best tools to save labor. Be sure to raise enough food supplies for man and beast. Feed the land with home raised fertilizers. and feed it liberally. Keep all the stock you can care for well, and save all the manure from stock to feed your land.

There is one tool farmers neglect to use enough, and that is the harrow. Pulverize your lands well by frequent harrowings, and you will be pleased with the result. I have used a small V shaped one horse harrow for geveral years, and wouldn't be without it for several times its cost. I run it in place of a plow beside all young plants. In these times of low prices for farm products, we must stick to our work, leave the village loafer to listen to his own talk, not monkey much with politicians, put our trust in God, follow the Bible and strive to be content with what we receive.

## FARMING AS A BUSINESS.

CORPUS CHRISTI, April 4. To Texas Farmer:—A lady the other day in town introduced me to her sister with this remark: "That is Farmer Clark that you read so much about, and he is as proud to be called farmer as some one would be to be called a business man." I said: "Yes, good ladies, I am very proud of my occupation, and am not ashamed of it in anybody's company. Why should I be?" I told them that a farmer's life, if he be a farmer in reality, was not to be sniggered at, and that I was one of that kind. While we, as farmers. seem to be isolated and deprived of many luxuries that are imaginary, I live in the country, eat fresh eggs, butter, cream, pork, chickens, vegetables of all kinds, and don't have to be limited at 5 cent's worth, but eat three times a day to my heart's content; also have berries, fruits and melons. I can cut and eat a whole one at once if I want to. If I like, I can take a day off to picnic as often as I chocse; can quit in the middle of the afternoon if I want to and I and the whole family can ride or drive when we like, Sunday or on week days. We fish when we want to. Yes, the writer pulled out and cleaned 40 fine fish the other evening-worth \$2. But they cost me nothing, and instead of having to stand behind the counter from 6 a. m. to 9 p. m.-15 hours-waiting and watching for some to come and furnish some business. When one goes to dinner with one of these town cousins they are not fixed to entertain you, if it is about 12 o'clock. The only thing the town man, boy or girl can boast of is that they go a little better dressed and can get to attend the 10 cent shows, and 25 to 50 cent theatres and can talk boastingly of it.

Now as to the real facts-a real life -the farm life is far ahead of the town, But for a butterfly display the town takes the cake. But if the farmers or working people had justice from the

[CONTINUED ON PAGE 8.]