

W. F. MARSHALL, Editor and Proprietor.  
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DEVOTED TO THE PROTECTION OF HOME AND THE INTERESTS OF THE COUNTY.  
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**The A. B. C. of Cotton Fertilization.**

To the Editor of the Gazette:  
Chemically, a fertile soil is one containing an abundance of available plant food, the substances necessary for the growth and welfare of plants. The number of elements of plant food derived from the soil is thirteen. The greater part of these materials always exists in the soil.  
The names of these elements are: nitrogen, phosphorus, silicon, iron, calcium, sulphur and potassium.  
Nitrogen is one of the most important of plant foods. It is most important. No plant on earth can grow without it. It is strange, indeed, that plants should want nitrogen when they are surrounded by the atmospheric air which is four-fifths nitrogen. The nitrogen must enter the soil, and there be taken up by the roots of the plant.  
Phosphoric acid is next to nitrogen in importance as a plant food. It is a constituent of all soils. The grain crops are large users of phosphoric acid.  
Potassium is the most important mineral food. It is deficient in sandy soils. The potash in barn yard manure is soluble and valuable.  
**NEED OF BETTER CULTIVATION.**  
Our farms in all parts of this country are in need of better cultivation. A great part of our future success lies in the intensive tilling of the soil—a great deal more than is imagined by many.  
At this age of the world no farmer can afford to neglect the proper cultivation of the crop he is tending.  
As I have said before in this paper, it was meant for man to till the soil. It is a good thing, it keeps our hands and mind employed and if we are attending our own business we are not near so apt to bother any one else.  
Moisture in a drouth is worth dollars, but we must keep our eyes open for the leaks, as after a while enough drops will be lost to make a gallon.  
I have always been in favor of fewer acres and better cultivation. The man who has broad acres cannot give intensive cultivation. That is why I do not believe in too much land. By few acres we are sure to tend our crops better, keep the soil clear of weeds, improve the soil texture and have better crops.  
In this progressive age of electricity, we should advance our methods of cultivation. The whole of my text is—  
**SHALLOW AND FREQUENT CULTIVATION.**  
This text we should ever keep before us. It is a good practice to scratch the surface after each rain so as to break the crust but not while it is too wet. This will injure the soil, wait until it is dry enough to work, don't get into a hurry and cultivate while land is too wet—it does more harm than good.  
**HIGH MANURING AND INTENSIVE CULTURE.**  
As the result of the wide dissemination of **THE GAZETTE** last March (1904) which contained a paper, "The Fertilization of Cotton," we received many letters requesting information from brother farmers all over the South. To some who sent stamps we replied.  
To commence, it costs just as much to buy low-grade guano, 8-2-2 as high grade guano, 10-3-6. Low grade goods never will give satisfaction for example—how much increase in production of cotton should a farmer expect over unfertilized land when he uses 75 lbs. per acre of 8-2-2? Let us see. He is using 1 pound of nitrogen, 1 pound of potash and 8 pounds of phosphorus to the 100 lbs to the acre! This will not pay.  
In order to prescribe a formula, it is necessary to know, the color and consistency of the various classes of soils. In order to prescribe intelligently it is all sufficient that the prescriber know whether the soil be sand, clay, poor, rich, high land, low-land, wet, dry, cool, hot, cold or warm natured, boulders as big as a barn door, or gravels as small as a humming bird's egg.  
This narrows the matter down to three propositions. (1) The tiller must know, in order to fertilize intelligently, his soil. (2) He must know the chemical needs of his crops. (3) He must know his tools.  
We will now take up nitrogen, phosphorus and potassium. Briefly stated, it is the function of nitrogen to promote the growth of stem and stalk, to

create a dense and luxuriant foliage, but this retards buds and flowers. This is why cotton in rich lands containing an excess of nitrogen makes excessive weed growth but a deficiency of bolls. For example, sweet potatoes, "all gone to vine" no tubers. Goobers, all gone to top, no peanuts. The farmer then declares his land too rich for cotton, "aters and goobers. But this is not the case. Soil never gets too rich if it is properly balanced to secure equilibrium.  
It is the function of phosphorus to increase fructivity and hasten maturity.  
The function of potash is to give strength and vigor to the plant, to develop the production of lint, to increase the bolls.  
A year ago we remarked that 400 to 800 pounds of guano could be applied to the acre with profit. Some soils will not bear that amount of concentrated chemicals at one time. It is best to use 200 to 400 pounds and gradually increase to the limit of danger—"too much weed—tops or vines as the case may be." It has been our good fortune to travel throughout the country and during our travels we noticed dealers pawing off low-grade 8-2-2 guanos on their customers to be "good as any"—in fact "the best" and "just the thing," and some-body's "Complete Corn and Cotton Fertilizer"—the "cotton guano," "Farmers Standard" etc., when the grade was 8-2-21 8-2-1 and 8-2-2 goods are not calculated to give best results for either cotton or corn on any soil either red clay or white sand. As a complete cotton guano well balanced, use 10-3-4; 10-3-3 is little enough. It takes potash to make cotton lint.  
A word to the wise is sufficient. No land should be planted in cotton if it does not yield a half-bale to the acre. While a bale to the acre should be striven for. Let "bales to the acre" be your motto instead of acres to the bale. Last March, a year ago, in these columns we tried to give in as plain and brief a manner as possible, the general principles upon which a rational, economical, scientific and practical system of cotton fertilization should be based. To those who file the **GAZETTE'S** we refer to our article on "The Rational Fertilization of Cotton," March 1904.  
Where stalk growth is deficient, the soil is poor, and a complete guano is needed. Where the stalks are small, but fruitful, nitrogen and potash are lacking. Where cotton does not fruit freely, phosphoric acid is needed. Where the bolls are numerous and small, potash is indicated. This can be applied at the rate of 50 to 200 pounds to the acre. Where the cotton "rusts" apply kainite at the rate of 200 to 400 pounds to the acre.  
Prepare the ground deeply. Plant an early variety. Give good distance.  
Some prefer 3x3, 3x6, 3x9, 4, 4x3, 4x6, 4x9, 5, 5x3, 5x6, 5x9, and 6. On poor land, plant 3 feet by 3 feet. On rich land, plant 4 feet by 4 feet. On very rich land 6 feet by 6 feet. Cotton is naturally of a pyramidal form. Don't crowd it too close in the row. Don't deform it. Again, don't crowd it, you diminish the yield by so doing. A stalk, 4x4 feet has been known to yield 8 pounds of cotton—seed cotton on a lb. Another stalk, subjected to crowding, 6 inches apart in the row between stalks, has been known to bear 6 bolls on it.  
Cultivate shallow. Cultivate every other week. Lay by early. Whenever a crust forms after a rain, when it is possible to break the crust without breaking the limbs or feed roots, the crust should be broke, loose dirt obtained to check evaporation of moisture and the consequent shedding of bolls from lack of moisture.  
Next, we invite your attention to **THE COLOR OF THE FOLIAGE.**  
A pale, sick, yellow color indicates a lack of nitrogen. This may be cured by applying immediately 200 pounds of nitrate of soda per acre applied close to, but not on the plants, neither when wet, or wet with dew or rain. The pale yellow sick color is a species of plant anemia and lack of vigor that indicates a lack of nitrogen and potash. Hence it takes a liberal application of both to force a robust vigorous growth.  
Mr. I. C. Symms, of Coweta county, Georgia, who was awarded the premium for the best yield of cotton, on five acres used two tons of high-grade 10-3-4 guano to the acre, and made 5 bales to the acre or 25 bales on the five acres. We pay annually \$50,000,000

for guano. What a vast amount it costs the American farmer to produce his crops—to say nothing of cost of seed, tillage, harvest and taxes.  
Will commercial fertilizers pay? They will when intelligently used. It pays the farmer to study the conditions under which he farms, the character of his soils, the chemical fertic needs of the crop, the time and manner of applying the artificial plant foods which they require so that best results can be secured.  
An abuse of chemical fertilizers is their application to the wrong crop. An application of nitrate of soda to clover or peas would be a waste of money. It will be best to test the needs of a certain crop by marking off a piece of well tilled soil, one-tenth of an acre, 21 feet square, north, east, south and west and applying the fertilizer to the crop to be tested. A farmer near the Dilling mill told me he was not getting effective results with his corn crop. I asked for the fertilizer tag and was shown that he used—what do you suppose? He used 2-7-1 goods. Two per cent of nitrogen, seven per cent of phosphoric, and one per cent of potash. I asked how much he applied to the acre. He said 150 pounds. Let's see what he got, 1% potash, 20 pounds to the ton, 1 pound to the hundred. He was applying a bushel and a half of potash to the acre to his corn! No wonder he failed. A farmer in Pisgah used 4-1-3 to his cotton and he failed. Let's see, 4% nitrogen, 1% phosphoric, 3% potash. The Pisgah man did not use enough. The former should have used the latter's formula, and vice versa.  
**Doctors Gathered in Atlanta, Discuss Great White Plague.**  
Asheville Gazette-News.  
Whether tuberculosis and consumption are one and the same and whether that disease is hereditary became an almost acute question during the initial day of the American Tuberculosis League's annual session in Atlanta Monday.  
Among those participating in the session are Drs. Ambler and Weaver of Asheville, and Dr. Mary Bingham, of Highland. About 600 physicians are in attendance.  
Yesterday the subject of discussion was the treatment of tuberculosis in its various forms. The paper of the day which was accorded the closest attention was by Dr. C. F. Ambler, of Asheville, on "The Physician's Permanent Duty to the Patient and Family in Tuberculosis." At the conclusion of the paper the convention by a unanimous vote authorized the publication of the paper as embodying the sense of the league on the subject. Dr. Ambler, in the course of his address, said:  
"I wish to place myself on record as advocating that the best means of preventing consumption has been reached. Consumption is to discover the tuberculosis disease in the patient before the stage of consumptives are persons dying with a tuberculosis disease. Tuberculosis is not the fatal disease that past generations have regarded it."  
At the conclusion of his discussion Dr. Ambler presented the following points. First—Tuberculosis is not the fatal disease commonly believed. Second—While communicable, it can be made practically innocuous by the proper course on the part of the patient. Third—The chief cause of the large mortality is late diagnosis. Fourth—Late diagnosis is

caused by indifference on the part of the patient to early symptoms and careless physicians consulted. Fifth—By thorough systematic instruction of the patient better results can be accomplished than by medication. Sixth—Instruction of patient, family and friends and close observation on their part of the rules laid down will practically rob the disease of its method and means of extending.  
At Monday's session, the Atlanta Constitution says "the question of hereditary consumption came up. Dr. McMurry asserting that it was. Other members of the convention denied the heredity, but asserted that consumption was contagious. Then another element would have it that it was not contagious, neither was it hereditary, but it was infectious—that under certain conditions it could be caught from one having it. The debate was in the pleasant manner imaginable, and was evidently relished by all, and by all a common understanding was reached showing mighty little difference of opinion."  
"State Control of Tuberculosis Disease" by Dr. R. E. Coniff of Sioux City, Iowa, attracted the attention of the assembly, and was well prepared. It suggested the necessity of isolation and asserted that health boards assumed control of other diseases less fearful and less deadly than tuberculosis.  
**The Reason Why.**  
Chicago News.  
"Yes," said the man who occasionally thinks aloud, "that's why so many marriages are failures." "Why is it?" queried the party with the rubber habit. "The average young man thinks a girl would rather be loved and petted than dressed and fed," exclaimed the noisy thinker.  
**New View of the Matter.**  
Parlington News.  
Our town was visited last week by two young women who were selling books. As a general thing we have very little time for book agents, but were very much struck with these two, and we gave them an order. We haven't seen the book since we put it away in our case, but we are sure we got our money's worth by encouraging these little souls that were out trying to earn their living in an honorable, upright way. We are sure that they have a rough road, and every dollar costs them hours of hard toil, but we wanted to show them that we approved of their efforts and a determination to wring from the world an honest living.  
**Major Hart Dead.**  
Major James F. Hart died at his home in Yorkville Thursday afternoon at 3:30 o'clock of cancer of the stomach, aged about 68 years. He had been seriously sick for several months and no hopes have been entertained since the diagnosis of his malady was made about two months ago.  
In the death of Major Hart, York county loses one of its most loyal, patriotic and public spirited citizens. He was a leading and most successful member of the local Bar and has been interested in numerous important suits. He was twice married and leaves a widow and six children, four sons and two daughters. Three of his sons are citizens of Louisiana and two of his daughters and one son reside in Yorkville.

**PISGAH PARAGRAPHS.**

York County to be Surveyed by the United States Department of Agriculture—Gaston County to be Surveyed by the Government in the Near Future—County Crop Report—Personsals—The Cold Wave.  
Pisgah, April 22.—To-morrow is egg day. Fried for breakfast, boiled for dinner, roasted for supper.  
So Lookout Mountain is to be looked into by the Southern Railway building a tunnel through it.  
The farmers are still holding cotton and from the looks of things it seems they are going to plant as much this year as ever. We hope not.  
Messrs. Louis A. Hearst and Albert S. Route, of the United States Department of Agriculture Bureau of soils, are at work in our sister county, York, making a study of the soils of York county. This is to be done thoroughly and the work will extend over a period of six months. They will then make a report to the bureau of soils, which will classify the different soils and determine what crops are suited to the soils. Afterward the experiment corps will study the soil matter and recommend the proper fertilizer needed for each soil. The whole then will be embodied in a report and the map and report distributed to the various crop correspondents, and those co-operating with or rendering the department some valuable service. This map for York county, S. C., will not be ready for distribution until 1907. The map of Mecklenburg county will not be ready until the fall of 1906.  
Gaston county will probably be surveyed by the United States Department of Agriculture, bureau of soils in 1906 or 1907. R. D. Martin is negotiating the matter at present; if Gaston is surveyed in 1906 or 1907 the map will not be ready until the fall of 1908 or 1909. In the course of half a century we expect to see every county in every state in the United States mapped by the government. Out of 96 counties in North Carolina, only 6 are mapped—Buncombe, Mitchell, Alexander, Catawba, Iredell and Craven. Any one desiring a county map can have his choice of any six of the above by conferring with Mr. Martin.  
Below we append the weekly county crop report ending Saturday April 22:  
Low temperature, fair weather, high winds, etc.  
Rainfall put the soil in excellent fix for cultivation and was not heavy enough to stop plowing.  
The cold wave on the 17th was general over the county; killing frost, temperature 6 a. m. 4 degrees below freezing 28 degrees F. Tender garden vegetables injured. Corn nipped. Fruit materially injured, peaches, pears, plums apples and cherries cooked.  
Grain crops doing well, promising. Rye heading in some sections. Gardens damaged by cold wave.  
Mrs. John C. Anthony has been sick for quite a spell, at this writing is some better.  
Mr. Perry Wright, of near Bessemer, called upon the paragrapher Monday on business.  
Mr. M. E. Allerson, of Spartanburg, S. C., representing the Robbins' Nursery Co., of Powell's Station, Tenn., called on the writer Monday and sold him a nice lot of fruit trees.  
The thermometer at 5 a. m. the 17th was 28 F. There was a severe freeze down Pisgah way. Beans and Irish potatoes lay flat. Wheat, oats and rye are practically uninjured. The peach crop is damaged beyond recovery. Some apples and also a few peach trees survived the ordeal.  
Mr. Smith Wood, of Spartanburg, called upon the writer Tuesday on business. We observe the great resemblance between Mr. Wood and Rev. B. W. Hatcher, of Raleigh, State Lecturer of the Grand Lodge of Ancient Free and Accepted Masons. This remarkable resemblance has been noted in these columns before.  
Misses Margaret and Sonora Bell, of Gastonia, are spending ten days in Pisgah, guests of Mrs. John A. Morrow.  
Mrs. John A. Morrow has ordered from the Gainesville, Ga., Marble Company an elegant marble monument to be erected in Pisgah cemetery to the memory of the late John A. Morrow. It will have sculptured upon it a "Bible, Crown and Cross."

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with epitaph—"Farewell, Wife, Children, All; I now must go. I've heard the Saviour's call."  
We've been requested to announce the "egg hunt" at Pisgah, Monday the 24th. But the notice comes too late. While the egg hunt is going on this paragraph will be on the press.  
The seasons grape crop is badly damaged. The new shoots are killed back to the old wood. It will be some time before the extent of the damage to the fruit crop is determined. Early corn that was nipped will sprout again. Early cotton no doubt will be replanted.  
Mrs. Milton G. Howell who has had a severe illness with her life in the balance with scarce a hope of her recovery is now able to walk around the house and yard though still unable to perform her household duties.  
Mr. D. John Bradley, of near Arlington, has sold his house and four acres of land to the Gray Manufacturing Company.  
Mr. John W. Hawkins has had a severe spell of the rheumatism.  
Mr. Lem T. Morrow who has had a seige with the chills is about recovered.  
Mr. B. E. Halfacre, a representative of the Red Cross Company is in Pisgah selling the "Emergency Chart and out-fit," which is gotten up by the company. The chart is 30x40 in. and tells what to do in case of accidents, fractures, dislocations, sprains, burns, scalds, bites, stings, etc. With the chart goes a tin box of absorbent cotton, salves, liniments and various plasters and bandages and full directions as to their use.  
**Chips From Cherryville.**  
From Cherryville News.  
Mr. Luther Dellinger has torn down the old McGinness store house, opposite the News office and is making preparations to rebuild.  
Miss Claude Adersholdt, of this place, and Boyce Cornwell of near Laboratory cotton mills were married at Grover Monday, by Rev. Mullinax.  
The one-year-old baby of Mr. and Mrs. Ed Frye, of this place, died Saturday and was buried Sunday at the cemetery. Rev. Tabor conducted the funeral services.  
Ed Stroup fell from a wagon loaded with eggs Tuesday and one of the wagon wheels ran over left ankle. No bones were broken, but his leg was pretty badly bruised.  
St. John's Lutheran church, of this place will be dedicated on the afternoon of the 1st Sunday of May. The dedication sermon will be preached by Rev. J. C. Moss, D. D., of Hickory, N. C. The public is invited to be present.  
Mr. E. C. Brown, the agent for the Seaboard Air Line, received a consignment of cats from Greenwood, Miss., last week, and he is very anxious for the owner to call for his freight. They came in a car load of cotton—four kittens and the old cat—Mr. Luther Mauney is acting as guardian for them pending the arrival of the owner.  
On last Wednesday evening a white man went to Mr. Hager's residence and stole a coat, hat and pair of gloves. There were also some valuable papers in the coat pocket. Hager got a clue to his man and followed it up and struck a hot trail. After pursuing his man steady all night he finally caught him. On Thursday morning he brought him to town and went before Mag. N. B. Kendrick and procured a warrant for the fellow's arrest. The man gave his name as Lee Matthews from Burke county. He confessed to the stealing and in default of bond was sent to jail.  
The little child of Mr. and Mrs. Parks Beaver who was carried to the Charlotte hospital last week is getting along very nicely.  
Mr. and Mrs. Rome Dellinger have gone to Baltimore, where Mrs. Dellinger will be given surgical treatment for throat trouble.  
Laban, the youngest son of Mr. and Mrs. G. M. Shives, who live near Mt. Holly, was buried at Hickory Grove last Sunday. His death occurred Saturday morning, the immediate cause was heart failure, although he had been sick for several weeks.  
Rev. A. J. Ransom, a native of Mecklenburg county, but for several years pastor of the A. R. F. church at Corsicana, Texas, has decided to take charge of the A. R. P. Mission work in Spartanburg, S. C.  
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