What is

Castoria is Dr. Samuel Pitcher's prescription for Infants and Children. It contains neither Orium, Morphine nor other Narcotic substance. It is a harmless substitute for Paregoric, Drops, Soothing Syrups, and Castor Oil. It is Pleasant. Its guarantee is thirty years' use by Millions of Mothers. Castoria is the Children's Panaces _the Mother's Friend.

Castoria.

"Castoria is so well adapted to children that | Castoria cures Colic, Constipation, I recommend it as superior to any prescription known to me." H. A. ARCHER, M. D., 111 So. Oxford St., Brooklyn, N. Y.

"The use of 'Castoria' is so universal and its merits so well known that it seems a work of supercrogation to endorse it. Faw are the intelligent families who do not keep Castoria within easy reach."

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gestion,

New York City.

15th Street and 7th Avs., New York City THE CENTAUR COMPANY, 77 MURRAY STREET, NEW YORK CITY THE COMPANY OF THE PARTY OF THE

Castoria.

Kills Worms, gives sleep, and promotes di

"For several years I have recommended

your 'Castoria,' and shall always continue to

do so as it has invariably produced beneficia

EDWIN F. PARDEZ, M. D.,

STARTLING INCREASE

Insanity Last Year.

preceding year was startling! Think of it

persons suffering from nervous troubles, such

as sick and nervous headache, nervousness,

convulsions, neuralgia, apoplexy, dyspepsia

sleeplessness, paralysis, nervous prostration,

epilepsy, etc. The outlook would certainly

be discouraging for you were there no means

of escape. Any of the above difficulties,

and many more, are alvance symptoms of

instnity or someother equally deplorable con-

dition ending in suicide or premature death.

his devoted over 20 years to the investiga-

tion of nervous affections, and in the result

of his labors lies the only hope of those afflict-

ed with the troubles named. His Restora-

tive Nervine is a positive means of relief.

If you have any nervous affection attend to

it at once. Do not wait till your intellect is

shartered or the frenzy of suicide overcomes

Rev. J. R. Miller, Pastor of the M. E. church,

Big Run, Pa., writes: "Overwork cause! me to

break down completely. The efforts of several good doctors, and eight weeks of travel, did me

ittle good. I could not read or study, and my

con lition was serious. I began using Dr. Miles' Restorative Nervine, four bottles of which com-

pictely cured ms. Accept my gratitude."

"I was taken sick last April, and had the attend-

ance of three of our best physiciams. The result

was that at the end of four months I was a help-

was that at the end of our months I was a help-less invalid, could not eat, and did not get thirty minutes' sleep in 24 hours. Lost 56 pounds in weight. Four weeks ago I began using Dr. Miles' Resortive Nervine, Restorative Tonic and Nerve and Liver Pills. Have gained 35 pounds in weight, can eat and sleep, and feel as well as I over did."—I C Stephens, Carlisle, Pa.

I was afflicted with nervous prostration over

two years, and during that time was unable to

perform any work. Through the use of Dr. Miles' Restorative Nervine I am entirely restored to health, and able to conduct my business the same

as before my sickness. I recommended the Nervine

to a voting man also suffering from nervous pros-tration, and he, too, received wonderful benefit from it. Dr. Miles' remedies are considered a pan-

ace vat our house."-W. S. Cutshaw, Gallen, Mich.

druggists on a positive guarantee or by Dr. Miles Medical Co., Elkhart, Ind., on receipt of price, \$1

per bottle, or six bottles for \$5, express prepaid. It

s positively free from all opiates and dangerons drugs. Dr. Miles' Nerve and Liver Pills, 25 cents per hox five boxes, \$1 00. Mailed anywhere. Free

One At a Time.

Ine step at a time, and that well-placed,

One stroke at a time earth's hidden strokes

One seed at a time, and the forest grows;

One drop at a time, and the river flows

One word at a time the greatest book

one blow at a time, and the tree's clef

And a city will stand where the forest grew

One grain at a time, and the sands of life

One day at a time, and our lives speed by into

One grain of knowledge, and that well stored,

One thought and wisdom. And time will tel

1,500 Hands Thrown Out of Employ-

NORRISTOWN, Pa., August 17-James

Lees & Sons, at Brideport, to day paid

off all their employees and shut down

their woolen mills for an indefinite

period, throwing out of employment

1,225 hands. The Norristown Wool-

also suspended operation to-day.

en Mills, employing 175 hands, Rambo

workingmen fought in Aigues-Mortes,

police made repeated efforts to restain

the men, but were not strong enough to

restore the peace. Ten men were

killed and twenty-six more wounded.

Children Cry for Pitcher's Costeria.

·One thing at a time, and that done well,"

One stone at a time, a palace rears

A few short years before.

One foe at a time, and he subdued,

And the conflict will be won;

One minute, another, the hours fly.

Another, and more on them;

many a garnered gem

- Is wisdom's proven rule.

We reach the grandest height.

Into the boundless sea.

Is written and is read;

Aloft its stately head,

Will slowly all be run.

Will slowly come to light;

book at druggists, or by mail.

Dr. Miles' Restorative Nervine is sold by all

you. Delay is dangerous.

Dr. Franklin Miles, the noted specialist,

The increase of insanity last year over the

Sour Stomach, Diarrhosa, Eruciation,

Without injurious medication.



regularity, Leacorrhoa or Whites, Pain in Back or Sides, strengthens the feeble, builds up the whole system. It has cured thousands and will cure you. Druggists have it. Send BE. J. P. DEONGOOVE & CO., Louisville, Ky.

************* A Household Remedy BLOOD AND SKIN DISEASES

Botanic Blood Balm

It Cures SCROFULA, ULCERS, SALT form of malignant SKIN ERUPTION, besides being efficacious in toning up the system and restoring the constitution, when impaired from any cause. Its aimost supernatural healing properties justity us in guaranteeing a cure, if directions are followed.

SENT FREE "Book of Wonders." BLOOD BALM CO., Atlanta, Ga. 60' LCGGGGGGGGGGG

WANTED.

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"World's Columbian Exposition Illustrated,' AUTHENTIC ORGAN OF THE FAIR

Great Opportunity to Make Money for the Next Year.

One Chance in a Limetime. Enclose 15 cents in stamps for Sample copy and full particulars. J. B. CAMPBELL, Pres. 159 Adams St., Chicago, Ill-

MAGNETIC NERVINE.



Nouralgia and Wake-fulness, cau-ed by ex-ce-sive us of Opium, Tobacco and Alco-hol: Mentsl Depres-Neuralgia and Wake-BEFORE - AFTER sion, Softening of

the Brain, causing Misery, Insanity and Death; Barreness, Impotency, Lost Power in either sex Premature Old Age, Involuntary Losses, caused by over-indulgence, over-exertion of the Brain and Errors of Youth. It gives to Weak Organs their Satural Vigor and doubles the joys of life; cures Lucorrhea and Female Weakness. A month's treatment, in plain package, by mail, to any address, \$1 per box, 6 boxes \$5. With every \$5 order we give a Written Cures and the given or refund the money. Written Cuarantee to cure or refund the money. reulars free. Guarantee issued only by our ex-

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Special Attractions. Matchless clilightful homelife. Well ordered courses & Regar's glove kuitting mills, 200 mate, Wonderful health record, Deinstruction. Thoroughly equipped hands, principally women and girls, gymnasium. Music under the celebrated Prof. Grabau (Germany). Art under Miss Blythe (Paris). House in seven PARIS Aug, 14 French and Italian acres of shaded lawn in the heart of a beautiful city. Rooms finely furnished. Steam heating and sanitary plumbing Department of Guard, to-day. The throughout. Charges as low as a fineschool can make them. Send for catalogue, Address REV. James ATKINS, Asheville Female College, Asheville, N.C.

HISKEY cured as Fosiae with-out pain. Book of par-ticular sent FILE. B.M. WOOLLEY, M.D. Atlanta, Ga. Office 1017, Whitehalls',

- Highest of all in Leavening Power.- Latest U. S. Gov't Report.

ABSOLUTELY PURE

WASHINGTON LETTER.

Prom our regular correspondent.

Senator Vorhees tumbled down good many imaginary structures when he asked and obtained the consent of the Senate for the Finance committee to hold daily meetings while the Senate is in session, in order to consider and report a financial bill. A number of industrious liars have been working double time to create the impression that Senator Vorhees and the other Democratic members of this committee were purposely delaying the consideration by the committee of financial bills that have been introduced. The facts speak for themselves and need no comment.

The Senate is now considering the bill favorably reported by the finance committee and endorsed by Secretary Carlisle, authorizing national banks to issue currency to the full amount of bonds they have deposited to secure the same. Senator Cockrell has proposed several amendments to the bill, because of his belief that the national banks already enjoy too many privileges. But inasmuch as the country is greatly in need of the additional currency which would at once be put in circulation were the bill a law there is little doubt that it will be passed

without material amendment. The Il mse has another week of sitver debate ahead of it before the voting begins. The unconditional repeat men appear to grow more confident of the result, although they admit that if the rumor which is current, that forty or fifty of the Republicans have agreed to vote with the silver men for the amendment providing for the free coinage of silver at a ratio of 2) to 1, shall prove to be true they shall be d-feated and the amendment adopted. The rumor, however, appears to have a very slender foundation, as Representative Bland, the silver leader, says he knows nothing about any such arrangement and does not believe that it exists, and ex-Speaker Reed says the Republicans of the House, with less than twenty exceptions, will yote for unconditional

Members of the administration were not surprised at the result of the Bering Sea arbitration, hints of the probable outcome having been received in advance of the decision. Nor are they disappointed, as the United States comes out of it quite as well as they expected. The fact is that the present administration has never enthused over this particular arbitration, and had it not found the whole business arranged for when it assumed office something would have been done in accordance with its own ideas. The decision will, of course, be accepted by this government as final, and advices from London bring the same assurance from the British government, so that the long and troublesome dispute may be considered as at an end, and the advantageo gained by the arbitration as about six points in favor of Great Britain to four in fayor of the United States. A Congressman speaking of the matter

said: "It seems to me that the rich seal ring gets more out of the arbitration than either the United States or Great Britain, as the prohibition of the use of fire-arms in sealing gives that here and in England, stand about ring a stronger hold than ever upon the business. The only people who still use the spear in sealing are the native Alaskans who are in the employ of the sead ring, so you can imagine what the prohibition of fire-arms means to the ring."

Representative Grosvenor, of Ohio, appears to be in a bad way. claimed in a speech in the House this week that President Cleveland's message to Congress was an appeal to partisanship. Many things have been said about the message, but so far Grosvenor is the only man who has heen able to see partisanship in it. During the Harrison administration Grosvenor had to be sent to Europe on a government mission to keep him out of mischief, and it is a great pity that he cannot now be sent somewhere to

remain until the financial question is disposed of.

Senator Hill this week introduced a bill for the repeal of the Federal election laws. It is short and to the point and will in due time be passed.

Speaker Crisp says, and there is certainly no better authority, that all the talk about this or that man for the chairmanship for this or that important House committee is pure guesswork. He has not made up his own mind, consequently it would be impossible for anybody to say what he intends doing. As soon as he ges the members satisfactorily assigned the committes will be annourced.

It has been stated here this week that President Cleveland was unafterably opposed to any compromise and desired Congress to either unconditionally repeal the purchasing clause of the Sherman law or to let it alone. Your correspondent vainly endeavored to find a Democratic Senator or Representative who had personal knowledge that such are Mr. Cleveland's sentiments. That he would prefer unconditional repeal is certain; but that he would veto conditional repeal I do not

Why Silver Has Gone Down.

/l: 1874, when the siller product of the world was 55,300,000 ounces, the silver dollar, or the metal in a silver dollar, was worth 98 8 cents in gold. In 1878, when the silver product of the world was 73,476,000 onnes, the silver dollar was worth 80.1 cents. In 1889, when the silver product of the morld was 125,420,000, the silver dolfar was worth 72.4 cents. In 1892, when the silver product of the world was 152,051,800 ounces, the silver dolar was worth only 674 cents. 1893 the value of the silver dollar has dropped as low as 53.4 cents. It will probably go lower still. Yet there is a wide demand for the free and unlimitel and independent coinage of silver.

It comes from many different quarters-from the silver producers who sell their bullion to the government at tancy prices, for gold; from the debtor classes who would like to settle old scores with light weight dollars; from the demagogues, whose mission it is to impose upon the credulity of the people; and from bonest but mistaken men who believe that unlimited silver money would bring higher prices and better times. We are all sorry for the silver producers, of course, but there is no reason why they should be made the special beneficiaries of the government. If it is right for the government to buy Colorado silver at the market price, it would be right for the Government to buy Carolina cotton at

The main idea of mary of the advocates of free silver coinage is that if there were more silver money higher prices for commodities would prevail -that there is in some way a close correspondence between the decline in the price of commodities and the decline in the price of silver. That there is no such correspondence if shown by the fact that in the last seven years, while silver has lost more than a third of its value, the price of commodities, where they did one year ago, or six years ago, and a little higher than they were seven years ago,-Charlestou Courier.

ALTOONA Pa., Aug. 17 .- The Pennsylvania railroad shops in this city have been ordered to work half time until further orders. The shops are the largest of the kind in the world, and employ between 6,000 and 8,000 men. Half of the men will work one week while the other half will work the next.

Bucklen's Arnica Salve. The Best Salve in the world for Cuts, Bruises, Ssres, Ulcers, Salt Rhem, Fever sores, Tetter, Chapped Hands, Chilblains Corns, and all Skin Eruptions, and positively cur s Piles, or no pay required. It is guar or money refunded. Price 25 cents per box. For sale by Whitley & Dun-

ap. Norwood, N..C.

WITH THE FARMERS. THE N. C. AGRICULTURAL EXPERI-MENT STATION AT RALEIGH

Presents Matters o Interes to the Tillers of the be !- Questions Answered and Timely Advice Given. AUGUST 12, 1893.

Cultivation and Soll Moisture. Very numerous experiments have been recorded to show that moisture is saved by cultivation. During hot, dry weather every foot of plowed land should be kept well stirred on the surface with any tool which tends to keep it from baking. A loose, fine surface will hold down water like a wet blanket. A field kept thus may give an increase in crop over one not cultivated equal to that produced by a heavy application of fertilizers. Preservation of the soil water thus becomes of great importance. A blanket of fine soil on the surface during a hot, dry week can be of great value to the crop and really become the turning point for profit if present when loss might result from its absence.—Frank E. Emery, N. C. Experiment Station.

The Late Crop of Irish Potatoes in the South The above is the title of an interesting bulletin, No. 85, of the N. C. Agricultural Experiment Station, by Prof. W. F. Massey, Horticulturist of the Station. The subject is an important one and the industry based upon it is destined to become a most valuable one to the South. Of the many thousands of barrels of seed potatoes now annually brought from the North both for seed and food, a few years hence will be reduced to as many hundred. The truckers in the East Atlantic States, to a large extent, now plant home.grown potatoes for the second crop, and it will not be long before the practice will become universal. These potatoes are destined also to supply the food market to the exclusion of Northern

grown potatoes. The important points to observe in planting are: Bed the seed in the soil until planting time, about the second week in August and use only sprouted ded sprout better than whole ones. Plant in a d ep furrow, but cover very lightly and pack the soil to the seed. Gradually fill in the soil to the plants as they grow, and cultivate the erop perfectly flat.

Suggestions as to keeping the late crop will be found in the above bulletin, as well as experiences of many truckers with this new crop.

It is surprising how people will be swindled by some worthless or inexpensive compound concealed under the guise of some glittering name, and selling for an exorbitant price, which does not even bear the name of the

Compound extract of salyx is the deceptive and ensuaring name of a compound which is being extensively sold to the people of the State to be used for preserving eggs, fruits, vegetables, etc. A package received at the Experiment Station for examination was labelled as follows:

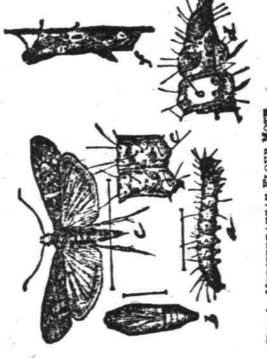
"Two O mee Package Compound Extract of Salyx. Prepare I expressly for preserving Eggs. Fruits, and Vegetables, by the "Cold Process" according to Hood's formula.

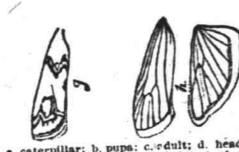
This material consists of a fine, white and crystalline powder, possessing little or no odor, and the aqueous solution has rather an agreeable sweetish taste. An analysis of this powder shows it to be nothing but commercial Salicylic acid. Salicylic acid is a powerful antiseptic, and owing to its slight taste, it has been much used for preserving commercial articles of food. When taken into the system in medicinal doses it has a powerful effect upon the system, and it is believed that its continued use in food, even in small amounts, must produce none other than injurious effects. The sentiment has been so strong against its use in France and other countries that laws have been enacted prohibiting its use for preserving foods.

The so-called "Compound Extract of Salyx", besides being a very undesirable substance to mix with foods, is sold at an exorbitant price compared with actual market value.-[F. B. Carpenter, N. C. Experiment Station.

Blight and Root Rot of Cotton. The Botanist of the N. C. Experiment Station is desirous of securing specimens of cotton showing characteristic symptoms of blight or black disease of boll and root rot. Farmers whose cotton may suffer from either of these diseases will confer a favor by sending Station at Raleigh. Wrap samples in moistened paper, and enclose in pasteboard box. Mail to North Carolina Experiment Station, Raleigh, N. C.

Warehouse and Flour-Mill Pests. (By Gerald McCarthy, Entomologist, Experiment Station.) One of the most dangerous insects which infest flour mills is the so-called Mediterranean Flour Moth (Ephestia Kuhniella). This insect is known to exist in North Carolina, and is likely to become a most serious and expensive pest. Figure 1 shows the appearance of this insect in different stages of





a. caterpillar; b. pupa; c. cdult; d. head and fore part of caterpilla; e lind-part of cater pillar: f. adult moth seen from side: g. h, i views of wings. The lines show exact size. This insect is of obscure nativity, but is thought to be American by European entomologists. It first became trouble

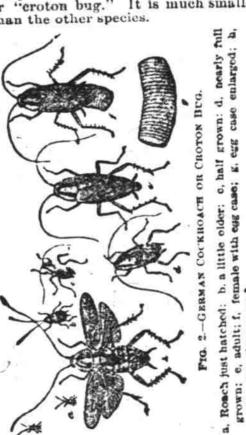
some on this continent in Canada in 1889. In the province of Ontario it infested several large flouring and patent food mills to such an extent as to compel the stoppage of the works for several weeks while all hands were put to work cleaning and fumigating the mills. The loss to several of these establishments, including stock and bolt-ing cloths ruined, and loss of time and labor, must have exceeded \$1,000 each. The moth which produces this des-

tructive caterpillar is a slender leadcolored insect, about I inch long. The wings have wavy black lines near the tip. The insect is rather sluggish and often remains in one position for a long time. This moth can probably be found active in this state in all months of the year except January. The eggs are whitish or pink, and kidney-shaped. The eggs are usually laid on outside of sacks and in the cracks of bins. They hatch in about 29 days. As soon as hatched the caterpillar makes its way into the flour and there spins around itself a silken tunnel in which it lives and feeds on the flour. These tunnels cause the flour to become knotted into clots which refuse to pass through the machinery, rendering the material worthless, besides clogging the cloths, screens and spouts.

REMEDY: The only practicable remedy for this pest is to fumigate the entire mill and building in which flour and manafactured foods are kept with carbon bisulphide. This substance is a fluid having a

most disgusting odor. It vaporizes readily when exposed to the air and in this condition is destructive to all forms of active insect life. To use it the room or building to be fumigated must be closed as tightly as possible. All interior doors should be kept open. Expose the liquid in shallow pans or saucers and close the building for 24 to 48 hours. Then open all doors and windows and allow the gas to disperse in the air. Care should be exercised to avoid breathing the gas and on no account should any fire or light be brought into the room or building while the peculiar oder can be smelled. This substance is highly explosive and inflamable. With care no harm will follow its use. When the gas disperses in the air it leaves no residue behind, so that no trace of it can be found in the flour or food. Where only a small lot of goods or sacks are infested they may be placed in an air tight room, or bin and a dish of the liquid placed within near the top. Use about four fluid ounces of the liquid for each 25 cubic feet of space, or for grain or flour in a tight bin use 1 pound of bisulphide for each ton. carbon Carbon bisulphide can be bought of W. S. Powell & Co., Annapolis Junction, Md., and of Edward Clark, Columbus, O. Price about 20 cents per pound in 5 pound cans. In smaller quantities it can be had of any druggist.

THE COCK ROACH-Periplanets orientalis, and other species. -The cockroach is one of the most common, disgusting and troublesame pests in all places where flour or bread is kept. There are two species about equally common in this State. The larger one is dark brown and varies from 3-4 to 1 inch in length. It runs very rapidly, and being so flat, it easily finds shelter in some crack when pursued. Figure 2 represents the common yellow roach, or "croton bug." It is much smaller than the other species.



All roaches are suormously fecund all voracious and eat every kind of food used by people. They prefer bread and flour, and foods made of flour. These pests are nocturnal in their habits and hence are apt to escape observation until their numbers increase so much as to render their presence alarmingly patent.

REMEDY: Cleanliness where such is practical is essential to keep free of these insects. In mills and warehouses where flour dust and grain is everywhere, the carbon bisulphide fumigation must be resorted to, and must be very thoroughly done, so that the vapor of the substance will find its way into the cracks and crevices where these pests hide. In addition pyrethrum powder should be blown into cracks where they are known to hide, or pure keresine oil may be blown in with an ordinary oiling can. Pow-dered borax sprinkled on shelves where they run will drive them away. Old rags moistened with molasses water in which Paris green has been suspended will poison them. The cloths should be freshly moistened each evening and removed in the morning.

THE GRAIN AND RICE WEEVIL (Calandra)-Two Species.-In North Car olina we have two species of grain wevils, calandra granarius, which infests wheat and corn, and calandra oryze, which infests rice in warehouses. The first is the more common and injurious. Both species are much alike. Fig. 3 shows



dark brown, or Fig. 3.-GRAIN WERVIL nearly black, is very slender and about 1-8 inch long. limmense quantities of wheat, corn and rice are annually destroyed by these pests in warehouses and stores. The only practicable remedy for these pests is carbon bisulphide. The infected grain should be put in an air-tight box or bin and a dish of the liquid laid on top of the heap. The whole must then be tightly covered and left for 24 to 48 hours. Then expose to the air until all odor is gone. The grain or flour will not be injured by the carbon. Use 11-2 to 2 pounds for each ton of grain, and cover tightly so as to keep in the fumes

until the insects are killed. They are exceedingly tenacious of life. THE FLAT FLOUR REETLE-Silvanus Surinaminsis.—This is a narrow brown beetle 1-12 inch long, and searcely thicker than a sheet of paper. It is a native of Asia, as its name betokens. It is becoming yearly a greater pest in the Southern States, and will probably exceed in mischief even the Calandra weevils. The remedy for this is the same as for the others—carbon bisulphide. This insect is fond of greasy substances, and if some paper is soaked in melted lard and Paris green sprin-

kled upon it while moist and the polsoned sheets distributed on floor and shelves where grain and flour is kept, many of the beetles will be killed; but this flour will not give satisfaction where they are already abundant until the carbon has killed most of them.
As a matter of safety all mills, warehouses and stores where grain, flour, and food-stuffs are kept, should receive a thorough annual cleaning, and fumigation with carbon bisulphide. This, if attended to and thoroughly done, will save many thousands of dollars damage. It will be most efficacious if done about April 1. It may be repeated with benefit in July or August. The best time to fumigate is on Saturday evening, having thoroughly closed all outside doors and ventilators, leave them until Monday morning. The utmost care must be taken that no fire shall be taken into the building while the odor of carbon bisulphide can be smelled. Neglect of this precaution will almost certainly result in an explosion and fire. With care there is no danger. The odor of this substance, though most disgusting, will not injure

QUESTIONS AND REPLIES. The Station will be glad to receive any question on agricultural topies any one may desire to send. Address all questions to the "N. C. Agricultural Experiment Station, Raleigh, N. C." Replies will be written as early as pos-sible by the member of the Station staff most competent to do so, and, when of general interest, they will also appear in these columns. The Station expects, in this way, to enlarge its

the most delicate food preparation.

The odor is not poisonous to human beings unless breathed for a long time, but as little as possible should be in-

sphere of usefulness and render great esistance to practical farmers. Fertilizer for Onlone. I am growing a crop of onlone. Apa using al ammoniated fertilizer, sixteen hundred (1.60) pounds per acro, on light sand with stiff red clay subseil. Will that be sufficient or will I need more Ammonia and Potash? Would an application of cotton seed meal and kainis be beneficial if so, in what proportion beneficial, if so, in what proportion and how much!-B. F. S., Salisbury, N. C.

(Answered by H. B. Battle, Director Experi ment Station.)
The 1,600 lbs. of the ammoniated fertilizer to the acre for the cultivation of onlons is not the best that could be applied. It gives entirely too much phosphoric a.id is proportion to the monia and potass ne essary for this crop. In order to make it of better service and more nearly what has proven to be needed by ordens,
I would suggest the addition of
fall is rotton seed meal,

per acre, or if this will make the application more than you can afford, together with what you have already put on, take half the quan-tities. Onions require a mixture giving about 9 per cent. potash,

BIDIDOLLA and from 1 000 to 2 0.0 It's of this mixture is the usual application. The equivalent to 1.500 It.s. of this mixture per acre could be made by mixing 1 000 lbs. kainit. 60) lbs. acid phosphate.

Fertilizer to Sow With Clover For Hay. I want to plant two or three acres in cloves this Fall, and write to ask you what kind o fertilizer to use, and how much per acre. I shall and to use commercial fertilizer. Please be definite and name what brands to use. If it has to be mixed please say just how much of each kind. Should you say use a fertilizer contain ing a certain per cent of one thing and a certain per cent of another. I would be as much in the dark as ever. I want the clover to cut and not to be grazed.—H. S., Monroe, N. C. (Answered by F. E. Emery Agriculturist, Er-

periment Station.) The condition of the field should dictate how much Settilizer should be used. If poor, like-some of our lands, no amount of fertilizer, but plowed in pea vines and stable manure, top dresses after sowing, on a thoroughly well pre-pared seedbed, would be required to make a fair stand and good growth of clover.

You do not need to buy nitrogen for clover es fairly rich soil. What would be needed would e supplied by the organic matter in the soil. If the soil is in good condition you might use 300 to 500 pounds of dry hardwood ashes, for 150 to 250 pounds Kainiti and 200 pounds of soid phosphate per acre. Sow both and harrow it and when harrowed to a fine seed bed sow 16 to 20 pounds of red clover seed, and go over once with a light roller or light harrow, or if these are not at hand, a light brush. Sometime August will probably be suitable to sow, but if a ong dry spell follows, you may count on reseeding, in which case 'ne surface must be reparrowed to a seed bed again. In the ordinary commercial brands of fertilisers you pay for what is found in a ton, of each of the elements nitrogen, phosphoric acid, and potash. Now, on a fair soil, clover does not

need purchased nitrogen, because after it gets started to grow it forms a sort of copartnershi with another plant a little microscopic plant and "tubercles" are formed on the clover root and by some obscure means the two gather trogen from the air in the soil. Thus we see clover gathers its own nitrogen and much more of it than most of our other cultivated plants This costs so little and the animal food-value of the nitrogen-compounds in the clover, and the plant food thus stored in the roots, is what makes the growing of clover se valuable to us. t is a nitrogen trap. If a poor soil is to be used, we must get organ-te matter into k for two reasons: To hold

moisture for the plants and to encourage a process cailed mitrification and help on the clover and its friend by these favorable conditions Stable manure plowed in furnishes the plans food and organic matter direct but is expe The cow pea belon, s to the same general family of plants as clover and, with, its minute friend has the greater advantage of being a +s to thrive on poorer land to in clover can grow ea.
Then when the pea vines are ripe and plowed
in and the clover seed sown on the well prepared surface, it vegetates quickly and as the young plants are susceptible to severe changes a dreught may kill them, or a crusted surface may prevent their coming up, or a minute hep-ping insect may come along in great numbers and eat off the temper leaves in great numbers and eat off the tender leaves faster than they can grow. So a light top-dressing of stable manure which acts as a muich to protect the plants from the sun, and hiding the soil prevents somewhat the drying out of the surface and brings some more plan; food directly to the plants, which may help them to grow away from the insects if they are present The second best course is to plow the ground well and harrow in the fertilizer as directed. Clover not needing nitrogen, you can buy seld phosphate for the phosporic acid. The brane is immaterial. You need now potash Hard wood ashes contain 7 or 8 per cent of potash 1 not leached, and also lime and some phosphoric acid which is favorable for clover.

You burn wood and may have the ashes at lome, or for a few cents per bushel can plok them up in the neighborhood, when you will have the best sort of combination of chemicals At the very smallest cost. Much now depends on your preparation of the seed led. Harrow and sow as soon as the land is fit to work after a rain or good shower.

Identification of Grass. I herewith send you specimen of grass gree ing in my fields. Please tell me name of said grass, etc. Any information will be thankfully re eived and appreciated by me. The species has completely taken possession of my test wheat field. My land is well improved: will produce 25 bushels of wheat per acre. Would like to know method of ridding my fields of this pest without planting in corn. -H. D. H. Reedy Creek, Davidson Co., N. C.

(Answered by Gerald McCarthy, Botanist, Experiment Station.)
This is Poa compressa (English blue grass) a
perennial grass of unsarpassed excellence for pasturage. It does far better than its sister species Kentucky Blue Grass, on soils poor in lime, as most soils in this State are. While wheat is selling at present prices, you will probably find it most profitable to leave the field in possession of this grass and pusture it. For a fuller account of this grass see Bulletin No. 78 of this Station.