

# One-Crop Farming Evil

When Crops Are Not Rotated the Soil Becomes Sick and Diseased and Crops No Longer Profitable

By C. E. Brashear, Student in the College of Agriculture, University of Missouri

While no set rules as to what crops pay best on Missouri farms can be given, it has been determined pretty definitely that when one crop is grown continuously on the same land it ceases to be a paying crop. The experiment station at Columbia planted corn on the same land every year for 17 years. Beside this, and during the same time, was grown a rotation of corn, wheat and clover. And on a third plot was grown a rotation of

grown year after year, the enemies of that crop are nearly sure to thrive in the soil. If it is clover, the soil becomes what we call clover-sick. If it is potatoes, potato-scab becomes established. If our cereal grains are made to follow one another, the land becomes foul with weeds. When one of these crops is planted only every other year or every third year, the disease is more or less starved out between times.



This field has a rotation of corn, oats, wheat and clover.

corn, oats, wheat, clover and timothy. On the seventeenth year of the trial the yield per acre of corn was as follows:

Yield Corn 1905. Bushels.

Plot I. Corn 17 years ..... 11.8  
Plot II. Corn, wheat, clover, 17 years ..... 59.7  
Plot III. Corn, oats, wheat, clover, timothy, 17 years ..... 54.2

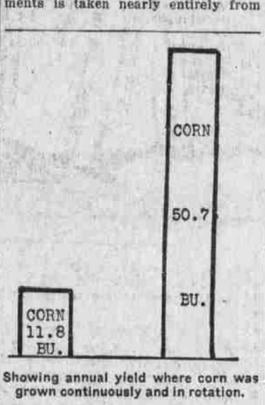
It is seen that by the continuous growing of corn the yield was reduced to where the crop was a losing proposition. Similar land yielded over four times that amount when rotated.

It is not to be inferred from this that the fertility of soil may be built up, or even maintained, under a system of rotation. Even under rotation the elements of fertility are being continually used from the land, and it is only a question of time until they are lacking to such an extent that the crop are diminished. Where only one crop is grown, the yield diminishes more rapidly, because the roots are always feeding in about the same layer of soil and make heavy drains on the same elements. By rotation the soil is made to grow crops profitably longer.

As a rule, land that has been heavily cropped with almost continuous grain growing produces markedly better crops for several years after a good rotation system is established. Especially is this true where little or no manure has been applied to the land. This is not because the rotation adds plant food to the soil.

There are a number of advantages derived from growing a variety of crops on the land. In the first place, there is given to the soil a variety of treatment. One year it will be cultivated and the next it will be covered with some hay crop. This makes it harder for weeds and insects to establish themselves. If the same crop is

Then there is a difference in the way the roots feed in the soil. The clovers go deep, while the grasses feed near the surface. Again, clover is a heavy feeder on some elements, while one of the most important elements is taken nearly entirely from



Showing annual yield where corn was grown continuously and in rotation.

the air. Peas and beans draw heavily on potash and lime. Wheat takes but small amounts of these, but feeds heavily on phosphorus.

Now, there is an abundance of phosphorus in most of our soils, but only small amounts are available to plants at any one time. The amount is so small that wheat often suffers from want of it, so that wheat may be a paying crop if grown every third year, where it would not pay if grown every year.

The distribution of labor throughout the year is a minor point, and yet is an argument in favor of rotation.

Our rich lands are slow to show the need of rotation. They have shown it in the East, and are showing it more and more in the corn belt.

Aside from the cost of a mill, there is little expense attached to fanning oats. The work is usually done in the early spring, when the farmer is not crowded for time. Oats tend to run out more than pretty nearly any other crop we grow. By eliminating the light seed running out is prevented to a certain extent.

Treating for Smut. Another means of increasing the oat yield is the prevention of smut. Next to rust, it is the worst enemy the plant has. It attacks the head, reducing grain and all to a black mass. The loss often amounts to as much as one-fourth the total crop. Fortunately, there has been found a method of preventing smut.

The treatment is generally applied as follows: Mix one pound of commercial formalin with 40 to 50 gallons of water in a barrel. This formalin can be secured at any drug store. After the seed oats have been fanned, spread them out on a clean floor and sprinkle them with the solution until damp enough to pack in the hand. Then turn with a shovel until all have been well damped. Then shovel into a pile and cover with old sacks or carpets for two or three hours. The oats should then be scattered and turned occasionally until dry. As soon as dry the oats are ready for seeding, or may be kept until ready to use.

## PREPARING SEED OATS

FANNING AND TREATING FOR SMUT MAY INCREASE YIELD.

By C. E. Brashear, College of Agriculture, University of Missouri

So far as the market value of the oat crop is concerned, it is one of the poorest paying crops we grow. The crop has desirable features, however, that may justify our growing it even at the present low yield. Oats have a decidedly favorable effect upon the land, and when fed in connection with our other grains they furnish what the other feeds lack, making a more nearly balanced ration.

It is possible, however, to grow more oats per acre than we are now growing, adding but very little to the expense. The practice of fanning seed oats, which is often neglected, has been given special study by several experiment stations. In these trials light seed were separated from heavy seed by fanning and the two were sown side by side. At harvest time the yield per acre was calculated. The results reported show from three to nine bushels in favor of the heavy seed.

## WHY DO HOGS LIKE COAL?

It is supposed that material of a gritty nature passing through the stomach and intestines of hogs helps to stimulate the flow of digestive juices. Coal is not digested, but acts as an absorbent and as a stimulant. It probably makes life miserable for stomach and intestinal worms. Charcoal is also appreciated by hogs and acts much in the same way as coal.

## Small Wonder.

A lady suffering from a severe cold directed her maid to procure two pennyworth of ammoniated tincture of quinine. Great was her amazement on the return of the maid, who expressed her inability to obtain "the two animated pictures of Queen Anne."—London Telegraph.

It is evident that if the earth's internal mass in liquid it must obey the law that governs fluids. Scientists have tried, therefore, to find some relation between volcanic eruptions and lunar attractions.—Harper's Weekly

## Calling Down the Nurse.

Little Frank's nurse, when finding him in mischief, was in the habit of exclaiming: "What in the name of common sense are you doing?" One morning, while she was bathing him, he asked: "What in the name of copper cents do you mean by getting soap in my eyes?"

## Time to Beware.

If ever you meet a woman who succeeds in convincing you that you are an exceptionally fine fellow, be very, very careful. She has far more intelligence than you.—Jay Denby, in Letters from China.

## Clash of Contrast.

"What is that terrific noise?" asked the pedestrian. "That," replied the policeman, "is caused by an ordinary one-cent safety pin sticking into a three-million dollar baby."

## Few Weather Facts.

California has the least number of thunder storms, and Alabama and Florida have the greatest number. Florida has the most even temperature.

# Congressional Notes

Joseph R. Wilson of Tennessee, brother of the president-elect, has withdrawn from the race for the secretaryship of the senate.

E. G. Buckland, vice president of the New Haven Railroad and Steamship company, headed a delegation of officials who testified before the House shipping trust investigating committee to refute charges that the New Haven has a monopoly on water and rail traffic in New England.

The withdrawal of the United States from the Philippines would be an act of cowardice and folly that would result in conditions worse than now exist in Mexico, declared Representative Olmstead of Pennsylvania in a speech against the Jones Philippine independence bill, which he described as "remarkable and dangerous."

Friends of the house amendment in the river and harbor appropriation bill, giving the Mississippi river commission jurisdiction over the levee districts in Illinois and Missouri, fear that Senator Burton of Ohio has succeeded in defeating the amendment in the senate committee on commerce.

The senate devoted a day's session to memorial ceremonies commemorative of the life, character and public works of the late Vice President James S. Sherman of New York. President Taft, members of the cabinet, the speaker, members of the house of representatives, the chief justice and associate justices of the supreme court, ambassadors and ministers to the United States and other important dignitaries were present.

A call, signed by employees of every department of the government service, was sent out to all federal civil-service employees for a conference here April 4 and 5 to form a national organization to devise ways and means for the retirement of supernumerated government employees.

By a viva voce vote the house re-passed the Webb bill to prohibit the shipment of intoxicating liquors into "dry" states as it passed the senate and thereby removed a parliamentary obstruction which threatened to delay its final passage until another session of congress.

The Poindexter resolution calling upon Secretary MacVeagh for a full statement of his reasons for issuing "treasury order No. 5" for the deposit of customs receipts in national banks was passed by the senate after a short debate.

Carrying a total of \$94,585,628, the army appropriation bill was reported to the senate from the committee on military affairs. The committee increased the allowances made by the house to the extent of \$680,450. A number of amendments in the shape of legislation were added, most important of which provides for changes in the method of appointment and constitution of courts martial.

The bill to provide \$2,000,000 for government participation in the Panama-Pacific exposition in 1915 at San Francisco was killed for this session of congress by the action of the house on a test vote of 113 to 117 in a parliamentary skirmish for closing debate.

Criticism of the present conservation system in the country because of the power it gives to departmental heads in Washington to regulate affairs in great areas of Western states was voiced in the senate by Senator Thomas of Colorado.

The house passed a resolution introduced by Representative Thomas W. Hardwick of Georgia, calling on the president for investigation regarding the exemption of American importers of Manila hemp from payment of the export tax thereon.

Eulogies for the late Senator Frye of Maine and Representatives Hubbard of Iowa and Uter of Rhode Island were delivered in the house. Many representatives joined in the symposium of tributes.

By a viva voce vote the house re-passed the Webb bill to prohibit the shipment of intoxicating liquors into "dry" states, as it passed the senate, and thereby removed a parliamentary obstruction which threatened to delay its final passage until another session of congress.

The Clayton resolution for a constitutional amendment for a six-year single presidential term effective in 1921, to exempt Taft, Wilson or Roosevelt from its operation, was put over to the next congress by the house judiciary committee. This indicates no action will be taken on the Works single-term resolution already passed by the senate.

Senator Poindexter introduced a resolution calling upon the secretary of the treasury to furnish him reasons for treasury order authorizing deposit of customs receipts in national banks.

Senator Crawford introduced bill to restrict issuance of intercountry injunction which suspend enforcement of a state statute.

Resolution calling for safeguarding American interests in Mexico was introduced by Senator Martine.

Charging that the power of the post office department to prevent the carrying of obscene matter through the mails is being used in "despotic fashion against reform publications and working-class papers," Representative Berger, the Socialist member from Wisconsin, introduced a resolution for an investigation of "the censorship" of the department.

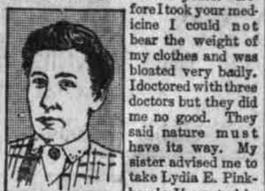
Primary elections for fourth-class postmasters are provided for in an amendment to the post office appropriation bill which the senate committee on postoffices added to that measure.

The Clayton resolution for a constitutional amendment for a six-year single presidential term, effective in 1921, to exempt Taft, Wilson or Roosevelt from its operation, was put over to the next congress by the house judiciary committee. This indicates that no action will be taken on the Works single-term resolution already passed by the senate.

# HOW MRS. BROWN SUFFERED

During Change of Life—How Lydia E. Pinkham's Vegetable Compound Made Her a Well Woman.

Iola, Kansas.—"During the Change of Life I was sick for two years. Before I took your medicine I could not bear the weight of my clothes and was bloated very badly. I doctored with three doctors but they did me no good. They said nature must have its way. My sister advised me to take Lydia E. Pinkham's Vegetable Compound and I purchased a bottle. Before it was gone the bloating left me and I was not so sore. I continued taking it until I had taken twelve bottles. Now I am stronger than I have been for years and can do all my work, even the washing. Your medicine is worth its weight in gold. I cannot praise it enough. If more women would take your medicine there would be more healthy women. You may use this letter for the good of others."—Mrs. D. H. Brown, 809 N. Walnut St., Iola, Kan.



Change of Life is one of the most critical periods of a woman's existence. Women everywhere should remember that there is no other remedy known so successfully carry women through this trying period as Lydia E. Pinkham's Vegetable Compound.

If you want special advice write to Lydia E. Pinkham Medicine Co. (confidential) Lynn, Mass. Your letter will be opened, read and answered by a woman and held in strict confidence.

SO IT WOULD SEEM.



"What is a 'figure of speech,' pa?"  
"Well, if talk is cheap, it must be a pretty small figure."

## CHILD'S FACE ALL RED SPOTS

632 N. 5th St., Terre Haute, Ind.—"My little nephew, a boy of four years, had a breaking out on his face. It was little red spots at first, then he would rub and scratch and water blisters would form, and wherever the water would run another would come until his face was covered with them. He would cry and fret. His mother got some medicine, but it did not do any good. He would scream and cry and say it hurt. We hardly knew him, his little face was all red spots and blisters. So I begged him to let me put some Cuticura Ointment on them. The next morning I made a strong soap suds with Cuticura Soap and washed his face in the warm suds. The little blisters burst by pressing the cloth on them. After I had his face washed, I put the Cuticura Ointment on and in a short time his little face was all red and dry. I kept using the Cuticura Soap and putting on the Cuticura Ointment and his face got as well and it did not leave a scar. He was entirely cured in about one week and a half." (Signed) Mrs. Arthur Haworth, Jan. 10, 1915.

Cuticura Soap and Ointment sold throughout the world. Sample of each free, with 32-p. Skin Book. Address post-card "Cuticura, Dept. L, Boston." Adv.

Willie Discovered a New Game. They had lived in a flat all of Willie's short life, so that the little boy's knowledge of fauna and flora was limited to canary birds and flower boxes; and when they went to board in the suburb where there was a large yard, Willie very enthusiastically started in pursuit of a chicken, armed with a stick and other missiles.

When the hostess protested to his mother, she turned from the window and said, indulgently: "You'll have to forgive dear Willie—he doesn't know that's a chicken."

Journalistic Horror. Old Subscriber—You and the editor of that paper down in Lonelyville indulge in a lot of cheap jokes on each other's town.

Editor (of Drearhurst Argus)—Yes, sir; we're going to put a head on them and call them "Interurbans."

Mrs. Winslow's Soothing Syrup for Children's teething, softens the gums, reduces inflammation, allays pain, cures wind colic, etc. in a bottle.

His Doubt. "Say, Billy," called the junior clerk, "how do you spell citizen?" "C-I-T-I."

"I know about the front end of it, but is it 'c-u-a or c-u-t'?"

FILES CURED IN 8 TO 14 DAYS. Your druggist will refund money if FOLEY'S HONEY AND TAR COMPOUND fails to cure you of Cough, Hoarseness, Sore Throat, or any other throat ailment.

Insufficient. Knicker—Do you treat your cook as one of the family?

Booker—Goodness, no; we treat her like three of the family.

# TRUCK GARDENING AND POULTRY RAISING

THESE, AS WELL AS OTHER MIXED FARMING BRANCHES, PAY IN WESTERN CANADA.

Truck gardening and poultry growing are two branches of agriculture in which the farmers near the main lines of the three transcontinental lines traversing Western Canada are much concerned. The abundance of sunshine during the long days from May to September, and adequate moisture in the spring and early summer permit of a wide variety of crops. The soil is rich and warm and is easily worked. Close attention to cultivation has resulted in record yields of all sorts of vegetable and small fruits which bring good prices in the cities and at the numerous railway construction camps.

Mr. Harris Olum, an Alberta farmer, came from South Dakota eleven years ago and homesteaded the first 160 acres in his township in 1902, which was divided between grain and pasture. He earned sufficient money to buy a quarter section of railway land at \$11 an acre. The half section netted proportionate profits and he gradually increased his holdings to 1,920 acres, which was devoted to mixed farming last year. He values his land at \$50 an acre.

Mr. Olum markets from 100 to 125 hogs and a similar number of beef cattle each year. He has 200 hogs, mostly pure bred Poland China, 25 head draft horses and 35 head of pure bred Hereford cattle. By feeding barley to hogs he estimates that the grain nets him 80 cents a bushel, as compared with 40 cents, the average market price when delivered to the warehouse. His average crop of barley is 40 bushels to the acre, while oats average 80 bushels.

By writing any Canadian Government Agent, full particulars as to best districts on which to secure homesteads will be cheerfully given.—Advertisement.

## Ceylon Tea.

Tea plantations in Ceylon have been in existence only 30 years, yet the annual exports of black tea amount to nearly \$20,000,000 in value. Formerly coffee constituted Ceylon's main industry, but after a disease of the plant in 1880 its cultivation was discontinued. Many planters, however, recouped themselves by tea and rubber. Thanks chiefly to the former article, the island's old prosperity revived. Today Ceylon boasts 1,500 plantations.

Plant necessary to tea cultivation is costly, but very labor-saving. The work itself is not hard; only the climate makes it irksome. What is wanted mainly of employes is to watch machinery and feed it from the stock of tea leaves awaiting treatment. The workers are not Singhalese, but natives of southern India. A laborer's wages vary from eight to sixteen cents a day, while a foreman's salary averages \$200 a month.—Harper's Weekly.

## Unpicked Grapes Go to the Poor.

A curious old law, which dates from 1779, has been used to sentence the owner of a vineyard at Capestang, near Bezier, France, to a fine and costs for picking her own grapes. She was picking the grapes which had been left on the vines in her vineyard after the fall gathering, when the policeman told her that she was committing an offense against the law, as all grapes left on the vines after the harvest were the property of the poor. The court at Bezier confirmed the policeman's opinion, and the woman was convicted.

## Amazed the Bishop.

It was an English youngster who so thoroughly surprised the kindly bishop whom he had been directed to address as "My lord."

"How old might you be, my child?" asked the stately if smiling ecclesiastic.

"My God, I'm seven!" the frightened child replied.

## How He Found It.

The Waiter—How did you find that cheese, sir?  
The Diner—By the smell.

## Why Women Have Nerves

The "blues"—anxiety—sleeplessness—and warnings of pain and distress are sent by the nerves like flying messengers throughout body and limbs. Such feelings may or may not be accompanied by headache or bearing down. The local disorders and inflammation, if there is any, should be treated with Dr. Pierce's Lotion Tablets. Then the nervous system and the entire womanly makeup feels the tonic effect of

DR. PIERCE'S FAVORITE PRESCRIPTION

when taken systematically and for any period of time. It is not a "cure-all," but has given uniform satisfaction for over forty years, being designed for the single purpose of curing woman's peculiar ailments.

Sold in liquid form or tablets by druggists—or send 50 one-cent stamps for a box of Dr. Pierce's Favorite Prescription Tablets. Ad. Dr. R. V. Pierce, Buffalo, N.Y.

Every woman ought to possess The Favorite Prescription Tablets. It answers questions of women's health. It teaches mothers how to care for their children and themselves. It is the emergency doctor in your own home. Send 50 one-cent stamps to Dr. Pierce as above.

Will Dawn Upon Him Some Day. "Oh, yes; Jack adores me; I've known it for weeks."

"Then what's bothering you?"  
"What's bothering me? Why, I've got to wait for him to find it out."—Boston Evening Transcript.



An added pleasure for smokers of Liggett & Myers Duke's Mixture

Here is a smoke with the real, genuine tobacco taste—that beats all artificial tastes. Every grain of it is pure, clean tobacco. Tucked into a pipe, or rolled into a cigarette, it makes a delightful smoke.

If you have not smoked Duke's Mixture, made by Liggett & Myers at Durham, N. C., try it now.

In addition to one and a half ounces of fine Virginia and North Carolina leaf, with each 5c sack of Duke's Mixture you now get a book of cigarette papers free and

A Free Present Coupon

These coupons are good for hundreds of valuable presents. There are shaving sets, jewelry, cut glass, baseballs, tennis racquets, talking machines, furniture, cameras, and dozens of other articles suitable for every member of the family—each of them well worth saving the coupons for.



As a special offer, during March and April only, we will send our new illustrated catalogue of these presents FREE. Just send us your name and address on a postal.

Write for book saving young chicks. Send us names of 7 friends that use incubators and get book free. National Kennedy Co., Blackwell, Okla.

## WHY INCUBATOR CHICKS DIE

Allen's Foot-Ease, The Antiseptic powder shaken into the shoes—The Standard Remedy for the Itch for a quarter century. 30,000 testimonials. Sold every where. 25c. Sample FREE. Address: Allen S. Townsend, 125 Bowery, N. Y.

## ALBERTA THE PRICE OF BEEF

60 ACRES WESTERN CANADA FREE. IS HIGHER THAN 80 CENTS IN THE FEEDING OF CATTLE. The Antiseptic powder shaken into the shoes—The Standard Remedy for the Itch for a quarter century. 30,000 testimonials. Sold every where. 25c. Sample FREE. Address: Allen S. Townsend, 125 Bowery, N. Y.

## Free Homestead

of 160 acres (and another a premium) in the new territory and produce either cattle or grain. The climate is excellent, schools and churches are everywhere. The land is splendid, in either Manitoba, Saskatchewan or Alberta. For literature, the latest information, railway rates, etc., to G. A. COOK, 128 W. 10th St., Winnipeg, and C. J. Thompson, 414 B. St., Chicago, Ill., or address Superintendent of Immigration, Ottawa, Canada.

## READERS

of this paper desiring to buy anything advertised in its columns should insist upon having what they ask for, refusing all substitutes or imitations.

480 Acre ranch in famous San Luis Valley, Colo. \$50 acres in cultivation. 100 in Arizona, yielding \$20 per acre. Splendid farms, remarkably smooth, yielding wheat, oats, alfalfa. Perfect water right. \$15 per acre. A. Bergin, C. W. Perkins, Alamosa, Colo.

Quickly relieves THOMPSON'S EYE WATER. JOSEPH L. THOMPSON, SOLE MANUFACTURER, 100 N. 2nd St., St. Louis, Mo.

DEFIANCE STARCH. best to work with and starches clothes cleanest. THOMPSON'S EYE WATER. FOR WEAK EYES. Pettit's Eye Salve. FOR WEAK SORE EYES. W. N. U., ST. LOUIS, MO. 8-1913.

You Look Prematurely Old Because of those ugly, grizzly, gray hairs. Use "LA CREOLE" HAIR DRESSING. PRICE, \$1.00, retail.