

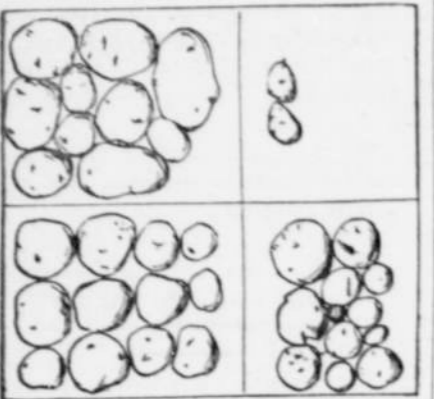
DISEASES OF POTATO

Problems of Increasing Importance to Agriculture.

No Trouble Has Caused Greater Difference of Opinion as to Nature and Cause Than "Leaf-Roll"—Symptoms Vary Greatly.

(By N. ORTON.)
No plant disease in this generation has been the subject of such general discussion as that known in Germany as the "Blattroll-krankheit," herein named "leaf-roll." None has aroused greater difference of opinion as to its nature and cause, and no other malady of plants is today receiving so much investigation by skilled pathologists as this. Possibly no disease which has appeared since the forties presents a greater menace to potato culture. The literature on leaf-roll has become so voluminous that few will undertake to peruse all the contributions.

Leaf-roll is a disease characterized by an upward rolling of the leaves, by



Comparison of Healthy and Diseased Hills of Same Varieties.

a decreased yield of tubers, and by transmission of the diseased condition through tubers planted. Its symptoms vary so much in detail that they can be most clearly outlined by separate treatment.

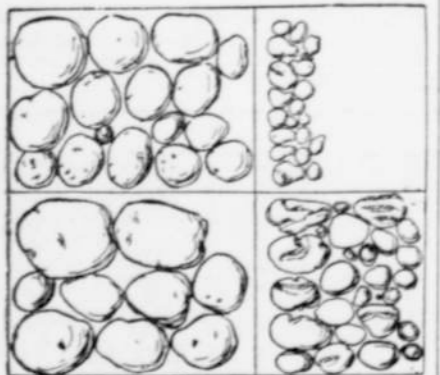
The rolling of the leaves is the most constant and conspicuous symptom of this disease. The leaflets curl or roll upward on their midrib, often assuming a nearly tubular shape, and giving a plant a starved appearance. This rolling is sometimes restricted to the upper leaves, while in other cases all or nearly all of the leaves may exhibit it. This type of roll is distinct from the curly-dwarf condition, but a very similar roll may be induced by other causes.

The color of the foliage changes with the advent of leaf-roll, but these color symptoms vary greatly, from cases where the leaves assume an unhealthy, light-green color to those marked by pronounced yellowish, reddish or purplish tints.

The effect of leaf-roll on the plant is to check development. There is a lessening or cessation of growth. The shoots remain snort and the leaves stand more upright. There is, however, no such shortening of stems and leaf ribs as occurs in curly-dwarf, with its resultant deformation of the plant.

The duration of life of the plant is shortened by leaf-roll. This is a relative matter, since the leaf-roll cases may die earlier, as would be expected of sick plants.

The true leaf-roll is inheritable. The tubers from diseased plants produce diseased progeny, as a general rule.



Upper illustration shows yields of healthy and diseased hills caused by curly-dwarf. Lower illustration shows yields of diseased and healthy hills caused by leaf-roll.

This affords a means of distinguishing from the genuine leaf-roll those temporary conditions which give rise to a similar appearance of the plants.

All those who are best acquainted with the trouble agree as to the results of planting diseased seed stock. This point is one of capital importance in the control of the disease and of great interest in its bearing on the nature of the disease. That leaf-roll is not communicable from diseased to healthy plants is the conclusion to be drawn from all available evidence.

Sheep Parasites.

Sheep infested with ticks will not fatten no matter how much feed and care are given. The man who gives his sheep over to ticks through the winter may expect little return for the feed.

If, during the winter, your sheep show any indication of scab, give them a thorough dipping. If you wait until spring they may be alive, but the chances are against them.

Keep sheep dry, quiet and warm during the winter.

Green Feed for Ewes.

A little green feed in the form of roots such as turnips or beets, is good for the ewes, but too much of it is injurious, as it makes the lambs soft and useless when dropped.

OYSTER-SHELL BARK LOUSE

Insect Found on Over Forty Different Food Plants in United States—An Effective Spray.

(By GEORGE M. LIST, Colorado Experiment Station.)

As the name will indicate, this is one of the scale insects, taking its name from the scale covering that is secreted over the insect's body, resembling somewhat the convex side of an oyster shell.

This insect has been reported on over forty different food plants in the United States, including most of our fruit trees, also many ornamental and shade trees. It has proved especially bad in some sections of this state on lilac and ash.

If one of these scales be raised in the winter or early spring, there will be found beneath it a mass of very small yellowish or whitish eggs that hatch about the middle of May into small lice that appear as mere specks to the naked eye.

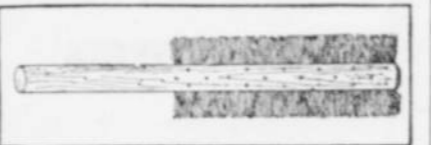
They move about for a few days, then insert their beaks into the bark and begin to feed. By the end of the season they are fully developed and have secreted a scale covering over the entire body. In the fall, the adult deposits the mass of small eggs and dies.

Spraying with kerosene emulsion 5 per cent kerosene in May or June just after hatching time has proved very effective in controlling this pest.

CONVENIENT IN THE APIARY

Brush Made of Manila Rope Is Handy for Cleaning Combs of Bees—Tool Box Is Useful.

I have several little conveniences that I use in my apiary, one of which is a brush for clearing the combs of bees, writes B. A. Manly of Milo, Iowa, in Bee Gleanings and Culture. Take a round stick, 16 inches long, and with a rip-saw divide it for about nine inches, leaving the other end for a handle. Take a piece of one-inch manila rope six inches long, and with the strands fill the opening in the stick, allowing them to project on both sides of the stick. At the end secure it with bee wire and securely



Bee Brush Made of Rope.

nailed the stick with one-inch brads. This makes the best brush I have seen, and is almost indestructible.

Another convenience is my covered hive seat and tool box. My hive seat is 14 by 16, with a pocket on each end 6 by 14. These pockets come within an inch of the top, and a cover is made to telescope over the seat and rest on the top of the pockets. Under the seat I have my smoker fuel; in one of the pockets my smoker, and in the other my tools. The framework of the cover is made of 3/4 by 1 1/2-inch white pine. The roof is rubberoid. Everything under it keeps dry, though I leave it standing in the apiary all summer, and at the same time I take no chance of setting anything on fire in the honey house.

By mixing green cut bone with the mash in the quantity hereinafter given a food will be obtained that is unequalled for laying hens.

Probably the best way to feed this ration is to give the flock a quantity which they will consume entirely in from eight to ten minutes.

This should be given them three times a week and the amount usually runs so that each fowl will receive on an average of one ounce at each feeding or every two days. In other words, about one-half ounce of green cut bone per fowl per day is considered the right amount.

Alfalfa Versus Timothy.
In one ton of alfalfa hay there are 1,044 pounds of digestible nutrients, of which 220 pounds are digestible protein. In one ton of timothy hay there are 926 pounds of digestible nutrients, of which 56 pounds are digestible protein. The nutrients in the timothy hay are furnished a little cheaper than in the alfalfa, but the protein in the alfalfa is far cheaper than in the timothy. As a dairy feed we would consider alfalfa hay cheaper at \$26 per ton than timothy at \$20.

Cracks Bad Ventilators.
Having cracks in the barn is not a good system of ventilation. A draft of cold air causes the cow much discomfort. Windows hinged at the bottom when partly open will allow the fresh air to enter and not strike the cow directly.

Old Lady Number 31

By LOUISE FORSSLUND

Author of "The Story of Sarah," "The Ship of Dreams," Etc.

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SYNOPSIS.

Captain Abraham Rose and Angelina, his wife, have lost their little home through Abe's unlucky purchase of Tenafly Gold mining stock. Their household goods sold, the \$10 auction money, all they have left, will place Abe in the Old Lady's home, or Angelina in the Old Lady's home. Both are self-sacrificing but Abe decides: "My dear, this is the worst time I've had a chance to take the first of it." The old couple bid good-bye to the little home. "What a lovely home," says the other old ladies, and Blossy, who has said a double fee for the only double bed-chamber, voices the unanimous verdict that Abe must be taken in with his wife. Abe awakens next morning to find that he is "Old Lady No. 31." The old ladies give him such a warm welcome that he is made to feel at home at once. "Brother Abe," expands under the warm reception of the sisters, and a reign of peace begins in the Old Lady's home. Abe is the center of the community. The semi-annual visit of Blossy's aged lover, Capt. Samuel Darby, is due. Abe advises her to marry him. For the first time the captain fails to appear. Blossy consults Abe so often regarding Darby, his old captain in the life-saving service, that gossip begins to buzz. Aunt Nancy takes Abe to task for flirting with Blossy. He is much concerned when he learns that Angelina is jealous. Blossy drives away with Darby to be married. Abe loses popularity. The change reacts on him and the doctor orders him to bed. Then he is at the mercy of the old ladies. Darby comes to see him.

CHAPTER XI—Continued.

Abraham flushed. He did not care to recall Samuel's wedding day. He hastened to ask the other what had decided him and Blossy to come to-day, and was informed that Miss Abigail had written to tell Blossy that if she ever expected to see her "Brother Abe" alive again she must come over to Shoreville at the earliest possible moment.

"Then I says ter Blossy," concluded Captain Darby. "I says, says I, 'Jest lemme see that air old henpecked Abe Rose. I'll kill him er cure him.' I says, Here, yer pipe's out. Light up ag'in!"

Abe struck the match with a trembling hand, unversed once more by the speculation as to what might have happened had Samuel's treatment worked the other way.

"I left Blossy and Aunt Nancy a-huggin' an' a-kissin' down stairs," Abe sighed: "Aunt Nancy ailers was more bark than bite."

"Humph! Barkin' cats must be tryin' ter live with Abe," he tapped the old man's knee again, "dew yew know what yew need? A leetle vacation, a change of air. Yew want ter cut loose from this all-fired old ladies' shebang an' go skylarkin'!" Abe hung on Samuel's words, his eyes a-twinkle with anticipation. "Yes,—yes, go skylarkin'! Won't we make things hum?"

"That's hummin' an' hummin'," objected Abe, with a sudden show of caution. "Miss Abigail thinks more o' washday than some folks does o' heaven. Wharabouts dew yew cak'late on ag'in?"

"Tew Bleak Hill!"
Abraham's face lost its cautious look, his eyes sparkled once more. Go back to the life-saving station where he had worked in his lusty youth—back to the sound of the surf upon the shore, back to the pines and cedars of the beach, out of the bondage of dry old lavender to the goodly fragrance of balsam and sea salt! Back to active life among men!

"Men, men, nawthin' but men!" Samuel exploded as if he had read the other's thought. "Nawthin' but men for a hull week, that's my prescription fer yew! Haow dew yew feel naow, mate?"

For answer Abe made a quick spring out of his chair, and in his bare feet commenced to dance a gentle, rheumatic-toe-considering breakdown, crying, "Hy-guy, Cap'n Sam'l, yew've saved my life!" While Darby clapped his hands together, proud beyond measure at his success as the emancipator of his woman-ridden friend.

Neither heard the door open nor saw Angelina standing on the threshold, half paralyzed with fear and amazement, thinking that she was witnessing the mad delirium of a dying man, until she called out her husband's name. At the sound of her frightened voice, Abe stopped short and reached for the blanket with which to cover himself.

"Naow don't git skeered, mother, don't git skeered," he adjured her. "I'm all right in my head. Cap'n Sam'l here, he brung me some wonderful medicine. He—"

"Blossy said yew did!" interrupted Angelina, a light of intense gratitude flashing across her face as she turned eagerly to Darby. "Lemme see the bottle."

"I chucked it out o' the window," affirmed Samuel without winking, and Abe hastened to draw Angelina's attention back to himself.

"See, mother, I kin stand as good as anybody; hain't got no fever; I kin walk alone. Yew seen me dancin' jist naow, tew. An' ef I had that pesky leetle banty rooster of a doctor here,

I'd kick him all the way down stairs. Cap'n Sam'l's wuth twenty-five o' him."

"Yew kept the prescription, didn't yer, cap'n?" demanded Angelina. "Naow ef he should be took ag'in an'—"

Samuel turned away and coughed. "Mother, mother," cried Abe, "shot the door an' come eet down er all the sisters'll come a-pillin' in. I've had a invite, I have."

Angel closed the door and came forward, her wary suspicious eye trailing from the visitor to her husband.

"Hy-guy, ain't it splendid!" Abe burst forth. "Me an' Cap'n Sam'l here is agoin' over ter Bleak Hill fer a week."

"Bleak Hill in December!" Angel cried, aghast. "Naow, see here, father," resolutely, "medicine er no medicine—"

"He's got ter git hardened up," firmly interposed Doctor Darby; "it'll be the makin' o' him."

Angel turned on Samuel with ruffled feathers.

"He'll freeze to death. Yew ehan't—"

Here Abe's stubborn will, so rarely set against Angel's gentle persistence, rose up in defiance:

"We're agwine on a reglar A. No. 1 spree with the boys, an' no women-folks is agoin' ter stop us neither."

"When?" asked Angel faintly, feeling Abe's brow, but to her surprise finding it cool and healthy.

"Ter-morrer!" proclaimed Samuel; whereupon Abe looked a little dubious and lifted up his two feet, wrapped as they were in the blanket, to determine the present strength of his legs.

"Don't yer think yer'd better make it day after ter-morrer?" he ventured.

"Or 'long erbout May er June?" Angel hastily amended.

Samuel gave an exasperated grunt. "See here, whose spree is this?" Abe demanded of the little old wife.

She sighed, then resolved on strategy: "Naow, Abe, ef yew be bound an' possessed ter go ter the beach, yew go; but I'm agoin' visitin' tew, an' I couldn't git the pair o' us ready inside a week. I'm agoin' down ter see Blossy. She ast me jist naow, pendin', she says, Cap'n Sam'l here cures Abe up enough ter git him off. I thought she was crazy then."

Samuel knocked the ashes out of his pipe against the window sill and arose to go.

"Waal," he said grudgingly, "make it a week from terday then, rain er shine, snow er blow, er a blizzard. Ef yer ever agoin' ter git hardened, Abe, naow's the time! I'll drive over 'long erbout ten o'clock an' git somebody ter sail us from here; er ef the bay freezes over 'twixt naow an' then, ter take us in a scoter."

A "scoter," it may be explained, is an iceboat peculiar to the Great South bay—a sort of modified dinghy on runners.

"Yes,—yes, a scoter," repeated Samuel, turning suddenly on Abe with the sharp inquiry: "Air yew a-shiverin'?" Hain't, eh? Waal then, a week from terday, so be it!" he ended. "But me an' Blossy is a-comin' ter see yew off an' on poety frequent meaneet-while; an', Abe, ef ever I ketch yew a-layin' abed, I'll leave yer ter yer own destruction."

CHAPTER XII.

"A Passel of Meddlers."

Angel's secret hope that Abe would change his mind and abandon the projected trip to the beach remained unfulfilled, in spite of the fact that cold weather suddenly descended on the South side, and the bay became first "scummed" over with ice, and then frozen so solid that all its usual craft disappeared, and the "scoters" took possession of the field.

Abe and Samuel held stubbornly to their reckless intentions; and the sisters, sharing Angel's anxiety, grew so solicitous almost to the point of active interference. They withheld nothing in the way of counsel, criticism, or admonition which could be offered.

"Naow," said Mrs. Homan in her most commanding tones at the end of a final discussion in the big hall, on the evening before the date set for departure, "ef yew're bound, bent an' determined, Brother Abe, to run in the face of Providence, yew want tew mind one thing, an' wear yer best set of flannels ter-morrer."

"Sho, that hain't no danger of me ketchin' cold," declared Abe.

"I didn't say yer thickest set of flannels; I said yer best. When a man gits throwed out onto the ice kerpump, the thickness of his clothes ain't goin' to help him much. The first thing I allus taught my husband was to have everything clean an' whole on, when there was any likelihood of a sudden death."

"Yew 'spect me tew go an' prink up fer a sudden death?" thundered Abraham. "I hain't never heard tell on a scoter a-killin' nobody yit; it's them plagued iceboats up state what—"

"That's all very well," persisted Mrs. Homan, not to be diverted from her subject; "but when old Doctor Billings got run over by the train at Mastic Crossin' on Fourth o' July eight year ago, his wife told me with her own lips that she never would git over it, cuz he had his hull big toe stickin' out o' the end of his stockin'." I tell yew, these days we've got tew prepare fer a violent end."

The patient Angel somewhat tartly retorted, that during the last week she had spent even more time upon father's wardrobe than she had upon her own; while Abe inwardly rejoiced to think that for seven days to come—seven whole days—he and Angel would be free from the surveillance of the sisters.

Mrs. Homan, in no way nonplussed, boomed on:

"Thar, I most forgot about his necktie. 'Course, they don't dress up much at the station; but jest the same that air tie o' yours, Brother Abe, is a disgrace. I told yew yew'd spill it a wearin'! It tew bed. Naow, I got a red an' green plaid what belonged to my second stepson, Henry O. He never would 'a' died o' pneumonia, ether, ef he'd a-took my advice an' made himself a newspaper night cap last time he substituted with the 'savers. An' yew kin have that necktie jest as well as not. Naow, don't say a word; I'm better able to part with it 'n yew be not to take it."

No one ever attempted the fruitless task of stopping Mrs. Homan once fully launched; but when at last she permitted her back to rest against her chair, folding her arms with the manner of one who makes a sacrifice in a worthy cause, Abe broke into an explosive protest.

If any one trotted him in his somewhat frothy convalescence, it was this grenadier member of the household, who since Blossy's marriage had endeavored to fill the vacant post of "guardian angel."

"Mie' Holman," he sputtered, rising to his feet, "I wouldn't wear a red an' green plaid tie to a eel's funeral!"

Then with a somewhat ungracious "good-night" to the company in general, he trudged across the hall and up the stairs, muttering something to himself about a "passel of meddlers."

Well-meaning Miss Abigail, who had been nodding half asleep, roused herself to call after him, and he paused unwillingly to heed.

"Naow, don't yew lose no sleep ter-night," she admonished, "a-worryin' erbout the change in yer vittles. I told Cap'n Sam'l that hardtack an' sech like wouldn't never do fer yew weak stummick, an' he promised me faithful he'd send somebody tew the mainland every day fer milk."

"Dew yew think I be a baby?" shouted Abraham, turning on his heel.

"I know now what makes my teeth so sore lately," mumbling to himself; "it's from this here arser-root an' all these puddin' messes. They need hardenin', tew."

CHAPTER XIII.

The Prodigal's Departure.

Abraham was up betimes in the morning to greet a day crisp and cold, quiet, yet with sufficient breeze stirring the evergreens in the yard outside to make him predict a speedy voyage.

The old man was nervous and excited, and in spite of his buoyant anticipations, somewhat oppressed, now that the day had actually come, with a sense of timidity and fear. Still, he put on a bold face while Angelina fastened his refractory collar and tied his cravat.

This was neither Mrs. Homan's offering nor Abe's own old, frayed tie, but a new black one which had mysteriously been thrust through the crack under the door during the night.

So, the last finishing touches having been put upon his toilet, and Angel having made ready by lamplight for her own trip, even before the old man was awake, there seemed nothing left to be done until the breakfast bell should ring.

Abe sat down, and looking hard at his open carpetbag wondered audibly if they had "everything" in. The last time they two had packed Abe's wardrobe for a visit to Bleak Hill had been many years ago, when Samuel Darby, though somewhat Abe's junior, was keeper of the life-saving station, and Abe was to be gone for a whole season's duty. Then all of his possessions had been stowed in a long, bolster-like canvas bag for the short voyage.

Both Angel and her husband recalled that time now—the occasion of their first, and almost of their last, real separation.

"A week'll pass in no time," murmured Angel very quickly, with a catch in her voice. "Lookin' ahead, though, seven days seems awful long when yer old; but— Oh, law, yes; a week'll pass in no time," she repeated. "Only dew be keeful, Abe, an' don't take cold."

(TO BE CONTINUED.)

FISH HOOK RECOVERS BODY

Passengers From Passing Train Drag River After Boy Is Knocked Off Bridge.

Using the boy's own fishing rod in grappling for his body, passengers on a Susquehanna and Western train that had knocked Paul Colombo from a bridge near Habbitt, N. J., into the river, succeeded in hooking his coat and dragging the body to the surface.

The lad, who lived at Twenty-third and Palisade avenue, West New York, was fishing on the edge of the railroad bridge with John Eichlar, when the train due at Hackensack at 12:56 came along.

The Eichlar-boy just managed to escape injury, the pilot of the engine grazing his heel. The Colombo boy was struck on the side of the head as he tried to swing away from the rail. Engineer Vrooman saw the boy fall into the river, stopped the train, and the passengers hurried to the scene. Several boys who were swimming near by dived time and again, but without success.

Then the passengers took turns with young Colombo's fishing rod, and finally the hook caught in the lad's coat. The body was dragged to the bank and taken on the train to Hackensack.

A Question.

"Dobbs is a mild-mannered man," "Yes, he is. I wonder if he's naturally so, or married?"

NEW ARMOR PLATE

The New Process, it is Claimed, Will Make Large Guns Useless.

Another of the series of experiments to determine the resisting power of a certain class of armor was recently conducted with extremely satisfactory results. Fortifications built of this metal might be made indestructible and it would be useless to bombard them.

It is also useless to try to make a success in life if handicapped by poor health. You lack the strength and stamina necessary to win.

In the majority of cases of poor health, stomach trouble is the real cause; but this can be corrected by careful diet and the assistance of Hostetter's Stomach Bitters. It tones, strengthens and helps the digestive functions and when the food is properly digested, strength and renewed vigor is sent coursing through the entire system.

The proper time for action is when you notice the first symptoms of weakness, such as loss of appetite, headache, bloating, heart-burn, sour stomach, indigestion or constipation and by resorting to Hostetter's Stomach Bitters you can help Nature conquer them. Delay only aggravates matters and prolongs your suffering.

Take a bottle home with you today but see that the stamp over the neck is unbroken.

TAKE THIS MAN'S ADVICE

TRY THE GREAT KIDNEY REMEDY

It always gives me pleasure to recommend anything that is right and so I feel it my duty to herald the praises of Dr. Kilmer's Swamp-Root.

For years I was troubled with kidney disease and it was so intense that I was bedridden for days at a time. I gave up all hope and doctors for miles around gave me no help. Incidentally I tried several patent remedies and at last tried Swamp-Root. From the first it gave me relief and it was no time before I was able to be up and around and now I am perfectly well and able to work as I used to before my terrible sickness.

So now let me thank you for your wonderful discovery and take this opportunity to recommend it to all who suffer from kidney troubles.

Yours very truly,
WALTER SHIVER,
Hope, Ark.

Subscribed and sworn to before me, this 25th day of March, 1912.

A. V. WARE, Notary Public,
Welch, Ark.

Letter to Dr. Kilmer & Co.,
Binghamton, N. Y.

Prove What Swamp-Root Will Do For You

Send ten cents to Dr. Kilmer & Co., Binghamton, N. Y., for a sample size bottle. It will convince anyone. You will also receive a booklet of valuable information, telling about the kidneys and bladder. When writing, be sure and mention this paper. Regular fifty-cent and one-dollar size bottles for sale at all drug stores.

Cheaper.
"A waist for a salesgirl" is described by a fashion writer. But in what respect does a salesgirl's waist differ from that of a duchess?—Louisville Courier-Journal.

Art is long and time is fleeting, and we are reminded that the bizarre valentine will soon be in our midst again.

Why Good Men Are Busy.
"Marry a busy man," advises Helen Rowland. It can't be done legally. All the busy men are married. That's what makes them busy.

The pork barrel seems to be the center of interest "over to" the legislature.

Optimistic Thought.
Resolutions taken without thought bring disasters without remedy.

WHAT \$10 DID FOR THIS WOMAN

The Price She Paid for Lydia E. Pinkham's Vegetable Compound Which Brought Good Health.

Danville, Va.—"I have only spent ten dollars on your medicine and I feel so much better than I did when the doctor was treating me. I don't suffer any bearing down pains at all now and I sleep well. I cannot say enough for Lydia E. Pinkham's Vegetable Compound and Liver Pills as they have done so much for me. I am enjoying good health now and owe it all to your remedies. I take pleasure in telling my friends and neighbors about them."

Mrs. MATTIE HALEY, 501 Colquhoun Street, Danville, Va.

No woman suffering from any form of female troubles should lose hope until she has given Lydia E. Pinkham's Vegetable Compound a fair trial.

This famous remedy, the medicinal ingredients of which are derived from native roots and herbs, has for forty years proved to be a most valuable tonic and invigorator of the female organism. Women everywhere bear willing testimony to the wonderful virtue of Lydia E. Pinkham's Vegetable Compound.

If you have the slightest doubt that Lydia E. Pinkham's Vegetable Compound will help you, write to Lydia E. Pinkham Medicine Co. (confidential) Lynn, Mass., for advice. Your letter will be opened, read and answered by a woman, and held in strict confidence.