

## KEEP SWINE HEALTHY

### Scours in Pigs Often Caused by Improper Feeding.

To Correct Trouble Give Sow Dose of Sulphate of Iron in Her Slop—Keep Young Animals in Dry, Sunny Quarters.

(By A. S. ALEXANDER.)

When young nursing pigs begin to scour it is evident that the milk of the sow is disagreeing with them and immediate attention, therefore, should be directed toward improving her rations. Most often the trouble comes from overfeeding on corn, or other rich food, just after farrowing, and pigs of fat, flabby, cross, nervous, constipated sows are most apt to suffer. Sudden changes of food, or feeding sour swill, or food from dirty troughs also tend to cause diarrhea either in nursing pigs or those that have been weaned, and all such cases should be prevented or removed.

To correct scouring in nursing pigs, give the sow 15 to 20 grains of sulphate of iron (coppers) in her slop night and morning and, if necessary, slightly increase the doses until effective. Lime water may, with advantage, be freely mixed with the slop as a preventive when there is a tendency to derangement, or after the trouble has been checked, and also is an excellent corrective for weaned pigs showing a tendency to scour on slop or skimmed milk. When little pigs are scouring severely, each may be given a raw egg and five to ten grains of sublimate of bismuth twice daily in addition to changing the food of the sow and mixing coppers in her slop. In cases which do not respond promptly to treatment, success may follow the administration of a dose of castor oil shaken up in milk.

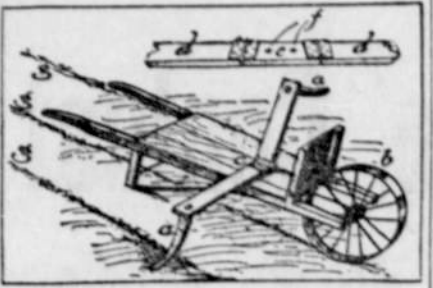
In all cases it is important to set right all errors in diet and sanitation and to provide the pigs with dry, sunny, well-ventilated quarters. The derangement is most apt to occur

## HANDY AS POTATO MARKER

Wheelbarrow Arranged With Pine Strips Hinged to Bottom Center Board Proves Satisfactory.

Last spring we had occasion to fit a very stumpy piece of sandy new ground for early potatoes. The one and two horse corn markers would not work because of so many stumps. The wheelbarrow being near with seed upon it a happy thought struck me—this would roll over the rough ground, roots, etc., and leave a distinct mark in the soil, besides running easily, writes G. A. Randall in Farm and Home.

A half-inch hole was bored through the bottom center board and two pieces, c, of inch pine strips 36 inches long were hinged, as shown, to a center section, e, fastened with a wire through the holes, f, to the bottom board. On the outer ends of these



Handy Marker for Potatoes.

strips a light runner, a, extends to the ground and slants back. These runners with the wheel in the center make three distinct marks when pushed across the field. In coming to a stump either or both sections are easily folded back until the obstruction is passed, then dropped to position again to mark.

Being light and mounted on a center wheel it pushed as easily as a wheelbarrow seeder and was extremely easy to guide; marks clear across the field being straight as those made with a line and very distinct. When not in use for a marker the sections are quickly removed.

## BURN CHOLERA CARCASSES

Burial of Dead Animals Not Approved by Nebraska Station—Excellent Plan is Described.

The burial of hogs dying of cholera is not advised by the department of animal pathology at the Nebraska experiment station. The germs of the disease will last a long time in the earth under favorable conditions and are liable to cause a new outbreak. The safest way to dispose of a carcass is to burn it.

Burning may be easily accomplished in the following manner: Dig two trenches a few inches deep intersecting each other at right angles. At the intersection of these, cornstalks, cobs, or other fuel may be laid. Over the trenches may next be laid strips of metal to support the carcass. Before being placed over the supports, the abdominal and thoracic cavities should be opened and be liberally sprinkled with kerosene. Then the hog should be placed belly downward over the fuel. As soon as the material in the trenches is ignited, it will rapidly spread to the kerosene and fat and the body will be quickly consumed.

If a large iron wheel is handy, it may be substituted with good results for the trench and iron bars.

## IMPROVE YOUR POTATO SEED

Wisconsin Experiment Station Gives Six Excellent Rules for Farmers to Follow.

The Wisconsin experiment station tells the farmers of that state to improve their potato seed.

1. By co-operating with their neighbors in securing pure seed.
2. By planting this foundation stock by itself where it will not be mixed with other varieties.
3. By learning the vine and tuber characteristics of the variety one plants.
4. By discarding as seed all hills which do not have these characteristics.
5. By selecting seed for next year on the field at digging time.
6. By organizing the growers, dealers and others in your community who are interested in the development and improvement of its potato industry.

## TREATMENT OF COVER CROPS

Thoroughly Cut Up Clover or Other Crops With Disk Harrow Before Turning Over.

Never turn the clover or other crop under without first thoroughly cutting up with a disk harrow, as the material plowed under in a layer seriously interferes with the capillary action of the moisture in the soil. The effects of turning under in a layer are what is sometimes called souring the soil with green manuring crops.

Double disk the cover crop two or three times with a sharp disk harrow before plowing; plow well by taking a narrow furrow and edging rather than inverting the furrow; then double disk the land again rather deeply, and no injurious effect will result however large the growth may be.

Bulls in Same Enclosure. If deborned, bulls of the same or different ages may be safely kept in the same enclosure. When two bulls are kept in adjoining enclosures they should be separated by a strong, high board fence, so they are unable to see each other.

# HIS LOVE STORY

MARIE VAN VORST  
ILLUSTRATIONS BY RAY WALTERS

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SYNOPSIS.

Le Comte de Sabron, captain of French cavalry, takes to his quarters to raise by hand a motherless Irish terrier pup, and names it Pichoune. He dines with the Marquise d'Esclignac and meets Miss Julia Redmont, American heiress. He is ordered to Algeria but is not allowed to take servants or dogs. Miss Redmont takes care of Pichoune, who, longing for his master, runs away from her. The Marquise plans to marry Julia to the Duc de Tremont. Pichoune follows Sabron to Algiers, dog and master meet, and Sabron gets permission to keep his dog with him. The Duc de Tremont finds the American heiress capricious. Sabron, wounded in an engagement, falls into the dry bed of a river and is watched over by Pichoune. After a horrible night and day Pichoune leaves him. Tremont takes Julia and the Marquise to Algiers in his yacht but has doubts about Julia's Red Cross mission. After long search Julia gets trace of Sabron's whereabouts. Julia for the moment turns matchmaker in behalf of Tremont.

CHAPTER XX—Continued.

After a moment, in which the Marquise d'Esclignac gazed at the bougainvillea and wondered how anyone could admire its crude and vulgar color, Miss Redmont asked:

"Did you ever think that the Duc de Tremont is in love?"

"Turning shortly about to her niece, her aunt stared at her.

"In love, my dear!"

"With Madame de la Maine."

The arrival of Madame de la Maine had been a bitter blow to the Marquise d'Esclignac. The young woman was, however, much loved in Paris and quite in the eye of the world. There was no possible reason why the Marquise d'Esclignac should avoid her.

"You have been hearing gossip, Julia."

"I have been watching a lovely woman," said the girl simply, "and a man. That's all. You wouldn't want me to marry a man who loves another woman, ma tante, when the woman loves him and when I love another man?"

She laughed and kissed her aunt's cheek.

"Let us think of the soldier," she murmured, "let us think just of him, ma tante, will you not?"

The Marquise d'Esclignac struck her eolors.

In the hallway of the villa, in a snowy gibbet (and his clean-washed appearance was much in his favor), Hammet Abou waited to talk with the "grandmother" and the excelsior.

He pressed both his hands to his forehead and his breast as the ladies entered the vestibule. There was a stagnant odor of myrrh and sandalwood in the air. The marble vestibule was cool and dark, the walls hung with high-colored stuffs, the windows drawn to keep out the heat.

The Duc de Tremont and Madame de la Maine came out of the salon together. Tremont nodded to the Arab.

"I hope you are a little less—" and he touched his forehead smiling, "today, my friend."

"I am as God made me, Monsieur."

"What have you got today?" asked Julia Redmont anxiously, fixing her eager eyes upon Hammet.

It seemed terrible to her that this man should stand there with a vital secret and that they should not all be at his feet. He glanced boldly around at them.

"There are no soldiers here!"

"No, no, you may speak freely."

The man went forward to Tremont and put a paper in his hands, unfolding it like a chart.

"This is what monsieur asked me for—a plan of the battlefield. This is the battlefield, and this is the desert."

Tremont took the chart. On the page was simply a round circle, drawn in red ink, with a few Arabian characters and nothing else. Hammet Abou traced the circle with his fingers tipped with henna.

"That was the battle, Monsieur."

"But this is no chart, Hammet Abou."

The other continued, unmoved:

"And all the rest is a desert, like this."

Tremont, over the man's snowy turban, glanced at the others and shrugged. Every one but Julia Redmont thought he was insane. She came up to him where he stood close to Tremont. She said very slowly in French, compelling the man's dark eyes to meet hers:

"You don't wish to tell us, Hammet Abou, anything more. Am I not right? You don't wish us to know the truth."

Now it was the American pitted against the Oriental. The Arab, with deference, touched his forehead before her.

"If I made a true plan," he said coolly, "your excellency could give it tomorrow to the government."

"Just what should be done, Julia," said the Marquise d'Esclignac, in English. "This man should be arrested at once."

"Ma tante," pleaded Julia Redmont. She felt as though a slender thread was between her fingers, a thread which led her to the door of a labyrinth and which a rude touch might sever her to lose forever.

"If you had money would you start

out to find Monsieur de Sabron at once?"

"It would cost a great deal, Excellency."

"You shall have all the money you need. Do you think you would be able to find your way?"

"Yes, Excellency."

The Duc de Tremont watched the American girl. She was bartering with an Arabian for the salvation of a poor officer. What an enthusiast! He had no idea she had ever seen Sabron more than once or twice in her life. He came forward.

"Let me talk to this man," he said with authority, and Julia Redmont did not dispute him.

In a tone different from the light and mocking one that he had hitherto used to the Arab, Tremont began to ask a dozen questions severely, and in his answers to the young Frenchman, Hammet Abou began to make a favorable impression on every one save the Marquise d'Esclignac, who did not understand him. There was a huge bamboo chair on a dais under a Chinese pagoda, and the Marquise d'Esclignac took the chair and sat upright as on a throne. Mimi, who had just been fed, came in tinkling her little bells and fawned at the sandals on Hammet Abou's bare feet.

After talking with the native, Tremont said to his friends:

"This man says that if he joins a Jewish caravan, which leaves here tomorrow at sundown, he will be taken with these men and leave the city without suspicion, but he must share the expenses of the whole caravan. The expedition will not be without danger; it must be entered into with great subtlety. He is either," said Tremont, "an impostor or a remarkable man."

"He is an impostor, of course," murmured the Marquise d'Esclignac. "Come here, Mimi."

Tremont went on:

"Further he will not disclose to us. He has evidently some carefully laid plan for rescuing Sabron."

There was a pause. Hammet Abou, his hands folded peacefully across his breast, waited. Julia Redmont waited. The Comtesse de la Maine, in her pretty voice, asked quickly:

"But, mes amis, there is a man's life at stake! Why do we stand here talking in the ante-chamber? Evident-

ly the war office has done all it can for the Capitaine de Sabron. But they have not found him. Whether this fellow is crazy or not, he has a wonderful hypothesis."

A brilliant look of gratitude crossed Julia Redmont's face. She glanced at the Comtesse de la Maine.

"Ah, she's got the heart!" she said to herself. "I know it." She crossed the hall to the Comtesse de la Maine and slipped her arm in hers.

"Has Monsieur de Sabron no near family?"

"No," said the Marquise d'Esclignac from her throne. "He is one of those unfamilied beings who, when they are once taken into other hearts are all the dearer because of their orphaned state."

Her tone was not unkind. It was affectionate.

"Now, my good man," she said to Hammet Abou, in a language totally incomprehensible to him, "money is no object in this question, but what will you do with Monsieur de Sabron if you find him? He may be an invalid, and the ransom will be fabulous."

The Comtesse de la Maine felt the girl's arm in hers tremble. Hammet Abou answered none of these questions, for he did not understand them. He said quietly to Tremont:

"The caravan starts tomorrow at sundown and there is much to do."

Tremont stood pulling his mustache. He looked boyish and charm-

ing, withal serious beyond his usual habit. His eyes wandered over to the corner where the two women stood together.

"I intend to go with you, Hammet Abou," said he slowly, "if it can be arranged. Otherwise this expedition does not interest me."

Two women said: "Oh, heavens!" at once.

Robert de Tremont heard the note of anxiety in the younger voice alone. He glanced at the Comtesse de la Maine.

"You are quite right, Madame," he said, "a man's life is at stake and we stand chaffing here. I know something of what the desert is and what the natives are. Sabron would be the first to go if it were a question of a brother officer."

The Marquise d'Esclignac got down from her throne, trembling. Her eyes were fixed upon her niece.

"Julia," she began, and stopped.

Madame de la Maine said nothing.

"Robert, you are my godson, and I forbid it. Your mother—"

"—is one of the bravest women I ever knew," said her godson. "My father was a soldier."

Julia withdrew her arm from the Comtesse de la Maine as though to leave her free.

"Then you two girls," said the Marquise d'Esclignac, thoroughly American for a moment, "must forbid him to go." She fixed her eyes sternly upon her niece, with a glance of entreaty and reproach. Miss Redmont said in a firm voice:

"In Monsieur de Tremont's case I should do exactly what he proposes."

"But he is risking his life," said the Marquise d'Esclignac. "He is not even an intimate friend of Monsieur de Sabron!"

Tremont said, smiling:

"You tell us that he has no brother, marraine. Eh bien, I will pass as his brother."

A thrill touched Julia Redmont's heart. She almost loved him. If, as her aunt had said, Sabron had been out of the question—

"Madame de la Maine," said the Marquise d'Esclignac, her hands shaking, "I appeal to you to divert this headstrong young man from his purpose."

The Comtesse de la Maine was the palest of the three women. She had been quietly looking at Tremont and now a smile crossed her lips that had tears back of it—one of those beautiful smiles that mean so much on a woman's face. She was the only one of the three who had not yet spoken. Tremont was waiting for her, Hammet Abou, with whom he had been in earnest conversation, was answering his further questions. The Marquise d'Esclignac shrugged, threw up her hands as though she gave up all questions of romance, rescue and disappointed love and foolish girls, and walked out thoroughly wretched, Mimi tinkling at her heels. The Comtesse de la Maine said to Julia:

"Ma chere, what were the words of the English song you sang last night—the song you told me was a sort of prayer. Tell me the words slowly, will you?"

They walked out of the vestibule together, leaving Hammet Abou and Tremont alone.

## ONCE A RIVER VALLEY

PROCESS OF FORMATION OF BAY OF SAN FRANCISCO.

Not Always the Magnificent Land-locked Harbor That It Is Today—Report Made by the Geological Survey.

Few people in viewing the Bay of San Francisco think of it as other than a magnificent land-locked harbor about which has grown the commercial metropolis of the Pacific coast of the United States. Yet this harbor did not always exist, according to a report on the geology of the region recently published by the United States geological survey, for at one time through the depression now occupied by the bay ran a great river that drained the Sacramento and San Joaquin valleys.

This river probably flowed between the Tiburon peninsula and Angel Island, and then through the gorge of the Golden Gate, where at present the greatest depth of water is 400 feet. After the river valley was formed the coast slowly sank and the ocean entered through the Golden Gate, flooded the valley, and formed the present bay.

Thus the valley occupied by the bay is really not so very different from Santa Clara and Santa Rosa valleys, and should the Pacific coast sink a few hundred feet lower, those fertile valleys would form great additions to the present bay.

But the change from a river valley to a bay happened very slowly, for even great earthquakes as a rule do not move large areas of the earth more than a few inches, and it is likely to be thousands of years before the outlines of the present bay are greatly changed by nature.

The region is particularly interesting, for it is one of the newest parts of our continent. Some of the rocks belong to the geologic period known as the Jurassic, but many of them are much younger and were laid down on the floor by the ocean long after the Appalachian mountains were formed.

Although these rocks are relatively young, yet they are hundreds of thousands of years old and have been raised out of the sea and tilted until in places they stand nearly on end.

The forces which have raised these rocks and have folded and broken them are still active, yet their effects are so gradually accomplished that for the most part they are inappreciable in a generation or even in several centuries. Sometimes, however, their effect is more apparent, as for instance when they cause earthquakes. Earthquakes are due to slight movements along what geologists call "faults," which are really broken places in the earth's crust where the rocks on one side of the break or crack move past those on the other side. Some of these faults may be traced for miles—not, of course, as open cracks, for to anyone but a close observer the rocks seem as unbroken in most places along the fault lines as they do in any other part of the region.

Most of these breaks are fortunately old, and it is to be hoped that movement along them has ceased, but two are alive and along one of these occurred the movements that resulted in the earthquake of April, 1906. Only once in several generations are serious earthquakes to be expected.

War Aids Jap Woolen Industry.

The army clothing orders received in Japan since the outbreak of war have stimulated the flagging ambition to make Japan a great wool manufacturing country. The Mainichi (Osaka), points out truly enough how the industry had subdivided itself in Europe, where England, Germany and Austria each had its own specialties and manipulated the fiber in different stages of manufacture. Seeing that Australia is the great country for the supply of the raw material, the Osaka paper thinks it would be much more rational for Japan to receive the wool and manipulate it in all stages before it was passed on to Europe than it is for it to go the round on to Europe and then come out to Japan in the manufactured state. It therefore exhorts the Japanese manufacturers to put the necessary energy into the task of building up a trade which European competitors will not be able to take away again after the war.—Japan Chronicle.

This Happened in New York.

"No spik English," gesticulated Hafiz with rising excitement, looking rather wildly about for an interpreter, down at the Seaman's Church institute on South street. Arab translators are not frequent about the institute, and the man behind the desk down in the savings department was distinctly mystified, says the Look-out.

"He won't take this money; it's interest on the gold he deposited with us a year ago," he explained at last to a glittering-eyed man from Bagdad who finally came to the rescue.

"Oh, no, he can't. Mohammedans—they can't—any of them. It is against their religion to take interest. Hafiz, he very good, very devout," protested the interpreter. And Hafiz went away, virtuously content.

Homes for the War-Stricken.

Lumbermen in British Columbia have been asked to bid on a contract for 500,000,000 feet of lumber to be used in constructing 100,000 two-room houses in northern France. The houses are to be built at government expense for those whose property was destroyed in war.



Prize-Winning Mule-Footed Hog.

among pigs kept in insanitary conditions.

Inactivity of the bowels most often gives trouble in pregnant sows and other adult hogs when given too little exercise and too much rich food. In such animals the liver is torpid, the system feverish and the muscles and other organs overloaded with fat. Constipation seldom troubles where hogs are fed laxative foods, such as bran, flaxseed meal, roots or alfalfa during the winter season, and in addition are made to take abundant outdoor exercise.

In the common disease of young pigs known as rickets, there is enlargement, bending and distortion of the bones of the joints and limbs, and fractures of leg bones are not uncommon. The bones of the body in affected pigs lack their normal proportion of mineral material and have an excess of vegetable matter. The tendency to the disease is hereditary and most likely to be seen in closely inbred hogs or those of herds kept under insanitary conditions and long imperfectly nourished upon unbalanced rations. The excessive feeding of corn to generation after generation doubtless induces a weakness of constitution conducive to rickets and the disease may appear as a result of any aggravating circumstance productive of malnutrition.

## BREEDING ONLY BEST CATTLE

Counterfeit Dairy Cow Has No Place on Pasture or in Feed Yard—Discard Poor Producers.

(By ROUD McCANN, Colorado Experiment Station.)

The development of the increasing demand for well-bred dairy cattle is based upon the recognition of the fact that under present production conditions, the counterfeit dairy cow has no place on the pasture or in the feed-yard.

During the past few years difficulty of replenishing and starting herds with good animals has confronted the dairy farmer at every turn. High feed bills have demonstrated the futility of expecting satisfactory returns when keeping poor producers, and the wideawake, progressive, businesslike dairymen are centering their demands on merit, of which there must be a greater supply to meet this demand. Foreign competition has created a well grounded impression that the most effective way of evading it is by greater production per animal and better products.

Silo Pays Well. No building on the farm will pay better returns than a good silo, if properly built and filled on time, and in the right way.

Reduces Farm Drudgery.

The modern equipment in the way of litter carriers and feed carts reduces the drudgery of the barns to a minimum.