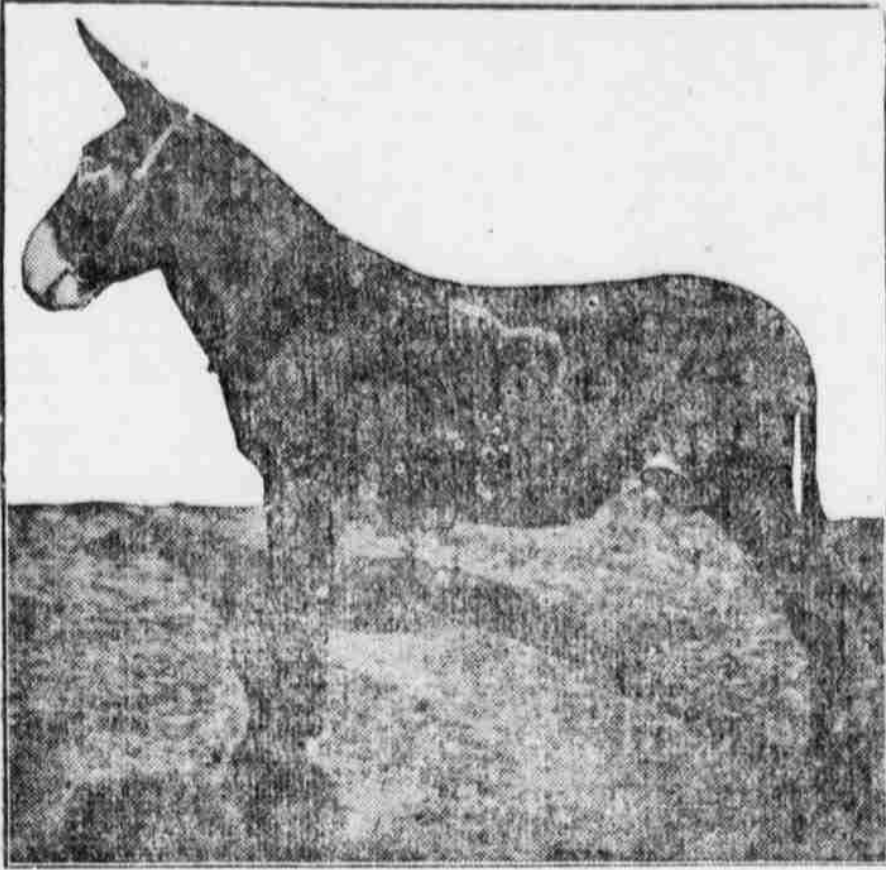


DIFFICULT MATTER TO CARE FOR THE JACK



Typical Kentucky Jack.

The care of the jack is not different from the care of the stallion except in the matter of exercise.

The jack cannot be driven or worked with satisfaction as it is a stubborn animal and not easily handled.

The jack should have a large lot connected with his stall in which to run when he pleases; he will not need much exercise and will not take much.

The jack is a vicious beast and a great fighter. Jacks have been known to kill stallions much larger than themselves. The jack should never be allowed a chance to get at another animal, and the caretaker should exercise great care in handling him.

An ordinary stallion bit-curb, the strap running under the chin, will not control a jack. He will require a heavy bit and chain. We have seen jacks handled with a stick attached to one ring of the bit, like a bull stick.

Some people say a jack's bite is deadly poisonous. There may be nothing in that, but once a jack gets hold of a man his life is in great danger.

It must not be understood that a jack is, as a rule, more dangerous than a stallion, except that he has more bulldog in him, is less intelligent, and is utterly without affection.

The jack requires about the same ration as the stallion. He should have corn and oats and plenty of clean timothy hay with a bran mash once or twice a week to keep him in good condition. He should be fed lightly during the closed season.

The jack is the most fastidious animal about his drinking water, and will not drink unclean water, nor will he drink from a trough or vessel that has been used by other animals.

GENERAL CARE AND FEEDING OF HORSES

Farmers Often Give Animals Too Much Attention—Spring Is Busiest Time of Year.

(By J. B. ANDREWS, Illinois Experiment Station.)

Much attention should be given to the general care and feeding of work horses. However, these factors are the least in need of remedying than any of the others that enter into the cost of horse labor. Farmers oftentimes give their horses too much feed and care, which increases the expense and does not add to their comfort or efficiency.

The number of horses kept and the amount of work per horse are the direct cause of the varying costs of horse labor and they in turn depend directly upon the system of farming.

All farm labor is divided into two principal kinds. They are the fixed, which must be done at a certain time, and the nonfixed, which may be done at odd times. For example, the final preparation of the seed beds, planting and cultivating are operations upon the corn crop for which the time is fixed, while plowing, hauling manure and fertilizer are nonfixed as to time. Husking corn is semifixed, as it may be done any time before the snow falls. Cutting corn for fodder or for the silo is fixed labor. The farmer should have his work planned ahead so that he will not have any of his non or semifixed operations to do when he must be doing something that is absolutely necessary. Plowing is a good example of nonfixed labor. Many discussions have been held to settle the relative value of spring and fall plowing from the standpoint of fertility, but few have considered either as to the utilization of farm labor.

In the fall there are times when there is not much fixed labor to be done. Other conditions being favorable, this is the time to plow. The spring is the busiest time of the year for horses and all work possible should be done at other times. Every farmer keeps a few extra horses for a whole year for a few weeks of extra work in spring. All of these extra horses cannot be eliminated, but if the work was so arranged the number could be reduced and a great saving result.

AVERAGE NUMBER OF PIGS FROM LITTERS

Result of Experiments Carried On at North Platte Station With Old and Young Sows.

The average number of pigs per litter raised from old sows during a period of four years was 6.55, at a cost of \$2.11 per pig weighing 50 pounds, according to experiments carried on at the North Platte experiment station.

The average number of pigs raised by young sows during a like period at North Platte was 6.2 at a cost of \$1.68 per pig weighing 50 pounds.

The fall pig was grown to the weight of 50 pounds as cheaply as the spring pig.

GOD OF BATTLES

By FRANK FILSON.

Edwardes, listening could plainly hear the sound of the German saps being driven toward the Canadian trenches. It was eerie, listening there by the light of the electric torch, burrowing like a mole beneath the slushy Flanders soil, and crouching knee-deep in water to prevent striking his head against the timbered roof.

He wondered often whether the Germans had heard him. Each side was projecting a sap against the trenches of the enemy. When the saphead was ready hundred of pounds of gunpowder would be ignited; there would be a devastating explosion, and the trenches, damaged beyond repair, would be occupied by the troops behind.

It was thus a race between the Canadians and the Germans. The sap, extended outward from the Canadian lines, was now parallel with that of the enemy, and the extremity of each was barely a dozen yards from that of the other.

The sappers were resting in the traverse behind. Edwardes sat alone in the water, figuring out the plan. So many yards, so many cubic feet of timber. Milly, in Toronto; his thoughts always recurred to her.

They were to have been married a month ago. But he had been fighting with his contingent for seven weeks, and the marriage was postponed indefinitely—forever, probably. Not many men would come back to Canada; those that did would be crippled beyond repair.

As he crouched there, to his astonishment he found that he could hear the voices of the Germans. There was



Edwardes Did Not Throw the Bomb.

a flaw in the ground, a section of the crumbling rock, soft as chalk, had "slipped," probably as a result of the subterranean operations, leaving a crack in the earth, imperceptible, but conveying sounds clearly.

Two men were talking. Edwardes smiled rather painfully at that. He, as the engineer, had nobody to talk to during those rare minutes when work was suspended. His task was to crouch in the water at the end of the sap, waiting until the time came for a resumption of work. The German was situated more fortunately.

He could not hear the voices of his own men. They had retired to the traverse, their headquarters, waiting for the relieving party. It was time for the resumption. He left the saphead and, bending double, trudged back toward them through the water.

Suddenly the earth rocked about him. He was flung to the bottom of the sap by a terrific explosion. The plank roof collapsed over his head. Stunned, dazed, bewildered, he managed by a supreme effort to keep his face above the water.

In a few moments he understood what had occurred. A shell from a German 42-centimeter gun had fallen squarely above the opening of the sap, obliterating it and destroying all the men of his company.

He stretched out his arms and felt the wall that blocked the entrance. He called in a low voice, but there came no response. His electric torch had gone out, shattered by the force of the explosion. He was alone, twelve feet beneath the surface of the earth, between which and himself there intervened the solid timbered roof.

The air was already filled with the creeping fumes of the explosive. Edwardes crawled back toward the saphead. He crouched there, considering. He could still hear the murmur of the voices of the hostile party. But they seemed clearer.

Edwardes felt the earth wall cautiously. His fingers touched the damp, impenetrable mass and found no crevice; yet of a sudden he was amazed to see a tiny twinkle, apparently in the heart of the ground.

He stared at it in doubt; presently he could no longer deny the truth. Incredible as it seemed, the explosion had shaken the collapsing stratum still further, leaving a tiny gap between the two passages. And the enemy worked on, all unconscious of his presence.

The only possible way of escape from his underground hiding place lay through that gap, into the midst of the enemy.

Noiselessly as a mole he began to scrape a way toward the light. But suddenly he remembered that three bombs had been left near his own saphead, in case of surprise. They could not be discharged until the firing pin was withdrawn. He crept back, fumbled in the darkness until he found them, and returned.

Then he began to separate the particles of the earthen wall. The light had disappeared, but the murmurs continued. Evidently the soldiers were moving, probably at work. He surmised that the saphead had been driven further; in that case he would come on them from the rear and surprise them. Inch by inch he made his way, the friable earth crumbling under his hands, though his nails were torn and bleeding. At last the work was accomplished. A thin partition remained between himself and the sap; he could hear the murmurs distinctly, and could breathe the fresher air. He took a bomb in his hand, and with the other forced away the last of the barrier.

He sprang forward. He found himself confronting two Germans. One was a young officer holding a torch the other—a girl!

Edwardes, with his arm poised in the act of throwing, stood petrified. He had not withdrawn the firing pin. He could not hurl the bomb now.

The German, for his part, stood as if petrified, and the girl remained with her mouth open, staring at him. Then with a scream, she ran before he loitered. But Edwardes did not throw the bomb.

"A truce, kamerad!" cried the German suddenly. "I am a Saxon. speak English."

Edwardes lowered his arm slowly. The Saxons and the Canadians had preserved a semblance of good feeling during the conflict; he knew the man would not act treacherously.

"You will let this girl go?" asked the soldier. "Then we fight it out together."

"She can go," answered Edwardes "but you are my prisoner."

The German smiled and raised his arm. "Listen!" he said.

The Canadian only then became aware that the continuous reverberation of the cannon, which had been in his ears for hours, had ceased. He knew what that meant. And in a moment the ground above them trembled. It shook under the footsteps of thousands of men, rushing toward each other in the fury of battle.

"If I am your prisoner," said the Saxon, "where can you take me when your men are beaten?"

"They can't be beaten."

"Listen, then. We go out after the fight, and if my men have won, you are my prisoner. If yours have won I am your prisoner."

"If our side wins, you are my prisoner," answered Edwardes. "Mean while—let the girl go!"

"But where can she go now?" asked the Saxon.

Nowhere! The three must wait till the conflict ended. Edwardes was disarmed by the presence of this girl who had stolen in to meet her lover. He thought of Milly again, and realized as never before the sadness of the struggle. All personal thoughts must be set aside.

"Throw down your revolver," he commanded.

The Saxon, with a shrug, obeyed. They watched each other. Overhead the sounds had lessened. They ceased. The dull boom of the cannon began again.

"We have taken your trenches," said the Canadian.

The Saxon smiled.

"March before me! Take the girl on your arm. You will not be harmed. They will let her go. You are for fortunate to have the hope of meeting after the war."

"May I tell her?"

Edwardes bowed his head slightly and heard the German translate. The girl looked at him incredulously for a moment; then she flung her arm about her lover's neck and embraced him. She clasped her hands again and looked imploringly at the Canadian.

"It's all right," said Edwardes. "have—Ich habe ein fraulein," he explained clumsily, thinking of Milly.

The Saxon smiled at him. "You understand, you are taking me to freedom and yourself to imprisonment?" he asked.

"Our men hold your trenches," answered Edwardes, in a tone that admitted no denial. Yet, as the girl preceded him along the sap, there came into his heart the faintest fear that the attack had been repelled.

But he only squared his shoulders and crouched behind the two, and followed them toward that gleam of daylight that became slowly stronger. Overhead sounded the cannon, louder, more insistently.

They reached the entrance to the sap. No one was visible. Dead men and broken arms lay heaped in piles. Edwardes raised himself and stared about him. What had happened? Had the trench been taken or—were the enemy still in possession?

He saw his own doubts on the Saxon's face. The two looked at each other silently. The girl was standing a little distance away.

And it was thus, in their ignorance, in their pathetic helplessness, that their fate came to them in the form of the scattering shrapnel. Edwardes and the Saxon fell together. With a last effort he raised himself upon his arm and, starting at the uninjured girl, motioned imperatively toward the distance.

And he fell back, seeing the Saxon's uncomprehending eyes fixed upon his. The form of Milly hovered before his gaze—and vanished.

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SUCCESSFUL MANAGEMENT OF TURKEYS

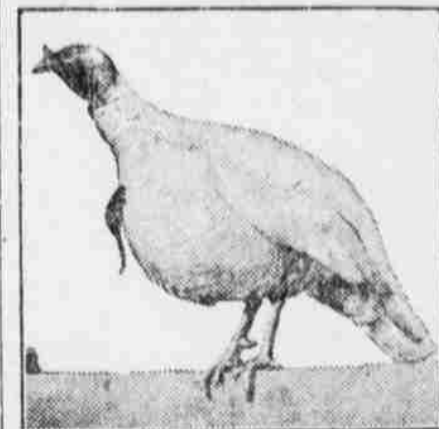


Splendid Flock of Turkeys.

The care which turkeys receive during the winter is a determining factor in the successful management of a flock. They cannot stand silt and if forced to live in it will soon sicken and die.

In an address some time ago on turkey raising Mr. W. J. Bell, who has had about thirty years' experience in the business, said:

"A great many people do not give



The Great American Bird.

their turkeys any attention in the winter months, and that is not right. I feed my turkeys oats in the morning and a full feed of good sound fall wheat at night, and I give them small, unsealable apples for green feed.

"Another way in which turkeys are neglected in winter time is when

there is snow on the ground and they cannot get any grit or gravel. It is necessary to have a bank of gravel that they can go to, and in the absence of that they should be supplied with commercial grit.

"Turkeys should have access to pure water at all times. If they do not get pure water they will drink out of the pools in the yard at this time of the year. A great many people tell me their turkeys are sick, and I attribute the cause chiefly to their drinking the water from pools in the yard. When the snow leaves the ground in the spring I take away the wheat and give them only a light feed of oats once a day, because they roam the fields and get a large amount of nutriment that is left over from the previous year. If you feed them oats and wheat right along the females will be too fat. The male does not look for feed. He is showing his beauty off all through the spring, and I feed the males oats in the morning and wheat at night in order to keep them in good condition.

"The birds should have a range every day out around the yard, and they should never be confined to the buildings. As to night treatment, the last two or three years I have left my turkeys to roost on the fences on the southeast side of the barn, where they are protected from the northwest winds. I would not say that they are not better there than in an open shed. In no case should they be compelled to roost in a henhouse."

POINTS ON FEEDING LAYERS

Ration Should Be Economical, Appealing and Nutritious and Contain Variety of Feeds.

In choosing a ration for the laying hen the poultryman has several points to consider. Such a ration should be economical, appetizing and nutritious and it should contain a variety of feeds.

The ration used in feeding laying hens at the Pennsylvania State College School of Agriculture and Experiment Station is as follows:

GRAIN FEED.	
Cracked corn	1 lb.
Wheat	1 lb.
Oats	1 lb.
DIET MASH.	
Corn meal	1 lb.
Bran	1 lb.
Wheat middlings	1 lb.
Meat scrap	1 lb.

The grain feed is fed night and morning, a lighter allowance being fed in the morning than in the evening. The plan followed at the Pennsylvania station is to feed approximately twice as much whole grain as mash grain. The mash is fed in hoppers, which for light breeds may be left open all day but for heavier breeds should be accessible only part of the day. Some grit in the form of oyster shell or ground limestone and some green feed such as cabbage, mangel-wurzels, sprouted oats, potato parings or ground green bone should be provided, in addition to the ration given above.

GUARD FOWLS AGAINST ROUP

Birds Suffering From Colds and Exposure Are Quite Susceptible—Make Use of Preventives.

Roup is a germ disease thought by some to be caused by the Bacillus Avisepticus; very infectious and usually transmitted by exposure to infected birds or to coops, roosts and yards where roup birds have been.

Birds suffering from colds and exposure are more susceptible and to guard against roup, you should use tonics and preventives, which not only tend to prevent this dread disease but help to keep the birds in the pink of condition and working overtime on the egg basket.

Vermin Keep Poultrymen Busy. In six weeks a single pair of lice, under favorable conditions, can give rise to 125,000. When they multiply that fast it certainly takes an active poultryman to keep ahead of them.

Road of Uncertainty. The poultryman who fails to keep an accurate account of his transactions is traveling over the road of uncertainty that leads to failure.

MATING TIME FOR TURKEYS

Strong, Healthy Birds Begin to Lay at Very Opening of Breeding Season—Give Good Care.

Strong, healthy, vigorous turkeys will mate and begin to lay at the very opening of the breeding season, while weaker stock will merely consume feed until the warmer weather makes itself felt in the spring. It is true that the feed and care that the birds receive, the proportion of males to females, and many other things enter into the matter of egg-fertility and strength of the germs, but besides all these the strength of the ancestral stock plays no little part. Without good care strong birds may not beget strong poults, but no amount of care will enable weak birds to produce strong ones.

It is after the spring hatches that the difference between good stock and weak stock makes itself most keenly felt in turkeydom, for that is the time when the poul mortality runs highest. Where coverts from under-sized or otherwise deficient ancestry will dwindle steadily from week to week, until possibly only fifteen or twenty per cent of the original hatch remain, the coverts hatched from vigorous breeding stock will be far better, perhaps sixty to ninety per cent of the young birds surviving the danger period under identical conditions. If the poults are ranging with the turkey hen the difference shows most markedly, for the greater intelligence, alertness, strength and solicitude of the better turkey mother also play their part.

CARING FOR WINTER LAYERS

Disease and Empty Egg Basket Result From Overcrowding—Hen Demands Good Ventilation.

Small flocks often lay better than large ones in the winter time. The reason is because they have better attention. Often the large flock is put into crowded quarters and fed poorly. Of course, this means disease and an empty egg basket.

Better to cull the flock very closely and keep only the hens that can be comfortable in the building. They must have room to exercise and they must have plenty of fresh air.

The laying hen demands lots of ventilation, but must be shielded from any draft of air.

The Successful Man. The successful poultryman possesses ability, determination, never loses courage and has perseverance.

Use Some Grain. A roughage ration of any kind is not sufficient during the winter. A little grain helps out wonderfully.