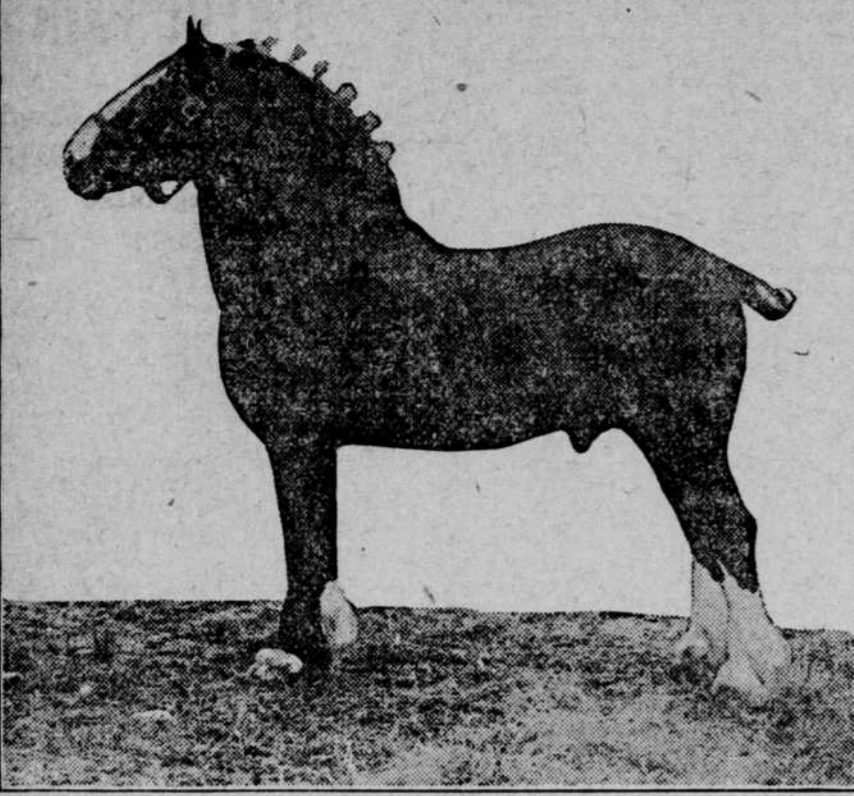


INFORMATION ABOUT HORSES AND MULES



First Prize Clydesdale Stallion.

What do you think of the man whom you see driving a horse with his tail docked to seven inches, perfectly helpless against the attack of flies during these hot days?

There is a great deal of humanity in axle grease. Have you ever noticed that the first thing your horse does when you turn him out of the stable in the morning is to go straight to the watering trough?

Contrary to the general belief, it does not hurt a horse to give him water in moderate quantities even when he is very hot, providing the water is not very cold.

Never salt the horse's feed in the box. Place a big lump where he can reach it and he will take it when he needs it.

The long halter strap in the stall has been the cause of permanent injury to many animals.

A "cheap" harness is really about the most expensive thing on the farm, as it sometimes costs life.

The well-bred draft horse is always in demand, and the farmer who breeds it constantly in the one who makes the most profit in horses.

The patient mule is not much for speed, but he keeps going, and usually arrives on time. A mule never seems to be really frightened at anything. When he runs away he does it through pure love of mischief.

A mule scents danger almost as unerringly as the elephant. Ever know a mule to step in a hole or venture upon an unsound bridge of his own volition?

No white man can ever get on as good terms with a mule as the negro can. The average mule will do as much work at two years old as the horse will at three or four.

Never tie a mule up in a stall overnight. The open field for him always. Some English farmers are paying as high as \$400 per pair for American mules to send to the Argentine Republic.

VALUE OF POTATO TO FATTEN PIGS

Expert at Eastern Oregon Experiment Station Gives Results of Test.

(By ROBERT WITHYCOMB of Eastern Oregon Experiment Station.)

An experiment to test the feeding value of raw or steamed potatoes as supplementary feed with a grain ration has been carried on with interesting results.

The hogs in the experiment were divided into eight lots and records of the different feed given each and the proportionate gains made were kept carefully. Each hog in lots 1 and 2 ate an average of 170.15 pounds of barley and 509.53 pounds of raw potatoes, making a gain in weight of 60.70 pounds. Those in lots 3 and 4 ate 110.20 pounds of barley and 663.75 pounds steamed potatoes, and made a gain of 70.60 pounds, while those in lots 5 and 6 ate 188.60 pounds barley and 564.80 pounds steamed potatoes and made a gain of 78.10 pounds. Lots 7 and 8 ate 300.10 pounds barley without potatoes and made a gain of 69.50 pounds.

The last two lots, fed barley alone, were used as a check on the others to show more definitely the proportionate value of the potatoes. At the present market value of 7 cents a pound live weight, the hogs fed barley made a \$3.87 gain, which makes the barley feeding value \$1.62 to the hundred.

Lots 1 and 2 fed barley and raw potatoes at the rate of three pounds of potatoes to a pound of barley, made a \$4.25 gain, which gives the raw potatoes a feeding value of 29 cents to the hundred. Lots 3 and 4 receiving six times as much steamed potatoes as barley, made a \$4.94 gain, giving the steamed potatoes a feeding value of 47 cents to the hundred. Lots 5 and 6 fed three times as much steamed potatoes as barley, made a \$5.47 gain, making the feeding value of the potatoes 42 cents to the hundred.

It is noticeable that those fed six times as much potatoes as grain did not make quite the gain made by the others, but it required 85.25 pounds less barley to make this gain, so the difference in feeding value is accounted for.

It is also noteworthy that the steam potatoes are worth 13 cents more to the hundred than raw for feeding, as shown in the comparison of the gain of animals fed the 3-to-1 ration.

Ducks Are Hardy.

Ducks, as a rule, are hardy. They do not have the gapes. The weakest part of a duck is its legs. Indigestion is apt to show itself in the young if the coarse sand is omitted in the food. It is always best to put a handful of sand in a pail of mash food, mixing it thoroughly. This will aid digestion. The oily nature of the feathers makes the ducklings vermin proof. Exposure to hot suns is fatal. There should always be a partial shade to the runs.

Yearling Hens.

Do not be in a hurry to sell off the good yearling hens. At these prices of grain and eggs, it will pay to keep them another season if there is room without overcrowding the young stock. A few bags of meat scraps will make them shell out liberally until snow flies, and in the spring they will begin again and lay then almost as well as the pullets. Even the two-year-olds of known laying qualities should more than pay their way another year, especially if they are pure bred, and if

CAUSE OF GAPES IN THE POULTRY

To Eradicate Disease Birds Affected Should Be Isolated and Treated.

(By H. L. KEMPTER of Missouri Station.)

Gapes is a disease affecting certain birds, fowls, and particularly chicks one to four weeks old. It is caused by a small worm, called the gape worm, which attaches itself to the windpipe of its victim.

The symptoms are frequent gaping, sneezing, a whistling cough, with discharge of mucus and worms, dizziness, weakness and drooping of wings. Dead birds will show forked worms attached to the windpipe.

The adult female gape worm is much larger than the male, her body being filled with eggs and embryos. These embryos appear in the droppings or are coughed up. So the trouble is spread by contamination of runs, feed and drinking water. Embryos are often found in earthworms.

To eradicate the disease, isolate affected birds, treat drinking water with potassium permanganate, burn dead birds, and remove chicks to fresh ground which is not infested. Cultivation of infested ground is said to eradicate the worms in three years.

Individual cases may be treated in one of three ways: By confining the chick for a short time in a box which has air-slaked lime on the floor. The lime is said to cause the worm to release its grip, and the chick to sneeze it out.

Stripping a feather, leaving a small tuft, moistening with turpentine and introducing into the windpipe, care being taken not to lacerate the windpipe or suffocate the chick.

Two horse hairs tied together, the knot trimmed, run down the chick's throat, and removing in a twisting manner, will also remove the worms. Gape worm extractors are also on the market.

TUBEROSES ARE NOT DIFFICULT TO GROW

Good, Rich Soil Is Necessary for These Handsome Flowers—They Sell Well.

These handsome stalk flowers are easily grown. Good, rich soil is necessary. The flowers always sell readily and ship any distance without injury. Bulbs also sell well. Sort them into three sizes and make the price accordingly. Plant in a sandy soil about five inches deep. A space in the back yard, a yard wide and two yards long, will produce a dozen fine stalks that will provide hundreds of flowers. Keep the plant moist at all times to secure choice flowers.

their eggs can be sold for special prices in the hatching season. But watch the flock and weed out the ones which do not soon respond to stimulating feed by frequent visits to the nest.

Special Crop. Try to raise some crop different from those of your neighbors, becoming skillful in its management, producing a fine and desirable article, and finding a home market for it with little competition.

IN ROLE OF CUPID

Lost Baby Brings Professor to Realization of His Own Helplessness.

By GEORGE MUNSON.

"I don't know what can be the matter with me, Miss Johnson," said Professor Barry to his housekeeper as she handed him his morning coffee. "I think I must be growing old."

"O, come, professor, you old at forty-five!" replied Miss Johnson, laughing. "What you want is to get married."

"Get married," repeated the professor absently, as though the idea had never occurred to him. "Why, who would want to marry an old foggy like me?"

"Some might," retorted Miss Johnson, tossing her head, and for the first time the professor wondered why Miss Johnson, with her strong, capable hands and warm heart had never married. Miss Johnson came every day to attend to the professor's needs. He was instructor in Latin at the college; Miss Elizabeth Johnson was the daughter of a fellow professor who had died impoverished. She was not pretty, but she was a universal favorite, and she was treated as a social equal by everybody in spite of the menial work she did. Miss Johnson might have been thirty-five.

"If ever I got married," mused the professor, as he wandered in the direction of the town, "I should want a wife with light brown hair, blue eyes, a pleasant but not necessarily beautiful face, and of a stature five feet four or five feet six. She should be a good cook and fond of children, always good-tempered and—why, bless me."

He blushed as he hurried along the street, for it had suddenly occurred to him that he was describing Miss Johnson.

"But I didn't mean anything, I assure you," he explained absently to himself.

"Please don't mention it," said a pleasant female voice in his ear, and

the policeman. "You're coming with me. It's going to be a cell for you."

TIGER FAILED IN HIS PART

Youthful Hypnotist Might Have Succeeded, but Savage Refused to Lend Aid.

(Copyright, 1913, by W. G. Chapman.)

"Jack the Lion Tamer," a ten-year-old boy who got the notion that he could subdue the wildest of wild beasts by looking them in the eye, had a narrow escape from serious injury in the Central park menagerie at New York when he tried to hypnotize Dick, the savage Siberian tiger.

Dick was lying near the iron bars of the outer cage when the young lion tamer came along. The boy had been caught pulling a lion's tail several times this summer and had been warned of the danger.

He got inside the railing, approaching the tiger's cage, and put a hand and arm between the bars. Then he called to Dick as he would to a dog, while looking him in the eyes.

The big tiger hasn't lost any of his savage nature since arriving at the park, and when he saw the arm in his cage his muscles stiffened for action. His ears went back and his lips curled. A group of men stood near, but no one warned the boy of his peril.

The lad thought he had the beast subdued and was bringing his hand closer and closer. Keeper George Sichert happened to go outside and, seeing the situation, grabbed the boy by the collar and pulled him back just as the tiger leaped toward the boy's hand.

One of Dick's claws tore the boy's index finger. The keeper gave him a lecture and expelled him from the menagerie.

Why Poison Ivy Is Poisonous. Poison ivy has long been a mystery both to scientists and laymen; why and in what manner it causes the peculiar rash and irritating inflammation have puzzled both botanists and physicians. At last the reason has been discovered. Doctor Mirande of Paris read to the academy of sciences in that city recently the result of his study of the poisonous weed.

Poison ivy contains prussic acid. This is found principally in the young leaves and buds; in older leaves there is very little of it.

In three and one-half ounces of young leaves there is about a quarter of a grain of the acid.

As in other plants in which prussic acid is found, the poisonous substance does not exist in its perfect form, but develops as soon as the leaves are bruised, a chemical action being set up through the union of an enzyme with a glucosid.

Got Even With Her. A few days ago two young ladies entered a trolley car and found only standing room.

"I'm going to get a seat," said one to her companion. "Now, you see!" Selecting a sedate-looking gentleman, she walked up to him.

"My dear Mr. Green," she exclaimed. "How delighted I am to meet you! You are almost a stranger. Will I accept your seat? Well, I do feel tired, I admit. Thank you so much."

The man rose. "Sit down, Jane, my girl," said he, as he courteously pointed to the vacant seat. "I don't often see you out on a washing day. You must feel tired, I'm sure. How's your mistress?"—National Monthly.

Catching the Pose. "I guess that boy Josh o' mine will make a reg'lar golf player one o' these days."

"Has he taken up the game?" "Not yet. But I've watched him at work an' I've noticed that whenever he's specially interested in something he 'jes' naturally stands pigeon toed."

"Hey, where are you going?" cried

the professor started in surprise, to see that he was looking into the face of a comely young woman who carried a baby.

"I assure you no harm has been done," she said. "So if you will kindly hold my little girl while I look for it, everything will come out all right." And she thrust a blinking bundle into his arms.

Professor Barry had never held a baby in his life and would have indignantly declined, but his arms went out instinctively, and a moment later he found himself holding the bundle, while the mother disappeared into the midst of the shopping crowd and was lost to view almost immediately.

"MANNISH" VESTS FOR FALL



These ultra-mannish vests are the very newest in French fashions for fall wear, but even the split skirt and the one-piece bathing suit have not prepared man to accept with equanimity this further usurpation of his costume.

DAINTY AND USEFUL DRESSES

Nothing Prettier for the Small Girl Has Been Evolved in the Season's Range of Fashion.

The model on the left shows a useful little dress in a soft shade of blue. The skirt is laid in flat plaits turning from the front. The bodice wraps over a little to left side; it is fastened by press studs and ornamented with fancy buttons and braided loops. The collar, cuffs and waist-band are in blue and white checked cotton.

Materials required: 2 1/2 yards 40 inches wide, 1/2 yard check 26 inches wide, 3 buttons. Beside this is a dainty dress of white spotted muslin. The bodice has a square yoke of lace insertion to



which the muslin is gathered. The sleeve is set into armhole with very slight fullness, the cuffs are of lace to match yoke, so are the waist-band and the band that trims the skirt above the hem.

Materials required: 2 1/2 yards muslin 36 inches wide, about 3/4 yard wide insertion and rather under a yards of narrow for waist-band.

Hallroom Library.

One woman has converted a hall-room into the daintiest of tiny libraries. On one side is a set of shelves for books. The walls are covered with blue damask of very delicate shade. The ceiling is white, with a conventional pattern of blue trailing vines drooping gracefully down to half-length. The rug is delit blue, and the room contains one chair upholstered in delit-blue brocade. A small mahogany table holds a telephone and a blue and brass writing outfit. A small lamp hangs from the center of the ceiling, and it has a blue and rose glass shade with crystal pendants. When lighted, it throws a beautiful glow over the little reading room.

Bright Buttons.

Buttons come in solid colors, in brilliant reds, blues, vivid greens and yellows, with novelty tones such as terra cotta, flame and reds of the Pompeian order. The tones are sometimes softened by a tracing of dull gold in Chinese or Japanese characters. This tracing is sometimes in black. The result is so good as to indicate a great vogue for these buttons.

Galalith copies of the striped china buttons which have been so fashionable this summer are being brought out for fall, and have already been heavily ordered.

A continuation of the vogue of the button in one color, showing circles in a bright shade, may be expected.

For Tight Shoes.

Summer is the season above all others when one's shoes seem to hurt, and this year one looks in horror at the rows of patent leather ones that are brought out in the exclusive shops, but true, these may be worn with comfort if one will shake a little powdered alum into the toe of her shoe before going out. Do not put it inside the stocking, merely inside the shoe.

EYEBROWS NEED CARE

Add So Much to the General Charm That No Woman Can Afford to Neglect Them.

It is an acknowledged fact that pretty brows add much to the general charm, and it is odd that women expect to enjoy this feature at its best when they do not take care of it. They would not expect either teeth, nails or hair to grow in perfection were they not taken care of, and the same applies to the eyebrows. They need massaging and shaping frequently. Falling in this, there will be scraggy lines or coarse, projecting hairs, the latter one of the most conspicuous disfigurements a woman can have.

I have often noticed women with apparently good hair, teeth and complexion entirely unmindful of the fact that the eyebrows were sticking out in all directions. A woman is greatly repaid for the few seconds she spends when her toilet is complete in shaping her eyebrows by the improvement in her general appearance.

The correct shape of a pretty eyebrow should be like a swallow's wing, and to give them the broad, yet curved effect, begin at the end nearest the nose, stroke, as if the brows are inclined to be too broad, pinch together with the thumb and fingers in a straight line to the place where the natural curve starts. At that point there should be a downward stroke that will point the hairs in the right direction.

Some eyes are enhanced by a broad line, while others look better with a delicately penciled effect of the eyebrow; this, of course, depends upon the shape and contour of the face. So that in getting this straight line over the eyes an effect of width most becoming to the face is given, while the downward line finishes off in all cases to a tapering point.

For massaging where the encouragement of a growth of hair is desired, I very much like vaseline because so much of the crude and natural properties has not been extracted from it as is done in the refining process of other creams, but for those who do not care for it the following may be used instead and will promote the growth of both brows and lashes.

One-half ounce of oil of sweet almonds, 12 drops each of oil of rosemary and oil of nutmeg, and a quarter of an ounce of tincture of cantharides. These ingredients, being all liquid, are easily mixed, and a two or three ounce bottle is large enough. Shake well, and it is ready for use.

If the brows are naturally thin and it is desired to improve the growth, a quinine tonic may be necessary, and for this I find that two ounces of alcohol mixed with ten grains of sulphate of quinine and massaged once a day into the roots makes a decided improvement.

No matter from what cause the brows become thinned, never cut them with the idea that it will improve the growth. Good and faithful massage is the only thing that will help. Cutting will only coarsen them and they may become stiff and bristly after being cut. However, the eyelashes may have an infinitesimal portion clipped from each one about every three or four months. This must be done very carefully and when the clipping is finished anoint the base of the lashes with a very minute portion of castor oil, putting it on with a fine camel's-hair brush.

Kerchief Scent.

To perfume handkerchiefs break up a quarter of an ounce of orris root and tie up in a piece of muslin. Boll with the handkerchief for a quarter of an hour, using about three pints of water to a quarter ounce of orris root. When dry iron carefully and you will find your handkerchiefs will retain a delicate violet odor.

Children's Dresses.

This white cotton crepe with inserts of baby Irish lace medallions is a combination for children's dainty dresses.

HIGHWAY IMPROVEMENT



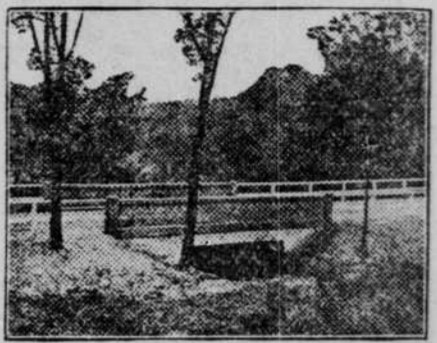
FOR CULVERTS AND BRIDGES

Steel and Concrete Combined Constitute Form of Construction Economical and Durable.

(By C. H. MOORFIELD.)

A combination of steel and concrete made in such a manner that each material will be required to withstand the character of stress for which it is best adapted—that is, tension for steel and compression for concrete—constitute a form of construction for short bridges and culverts both economical and durable. The advantages of the two materials are combined and their disadvantages in a large degree eliminated.

This form of construction, on account of its economy and simplicity, is especially well suited to highway culverts and short span bridges, when for any reason it is desirable that their superstructures be kept flat. In the case of arch culverts and bridges built



Reinforced Concrete Culvert on a Massachusetts State Road.

of concrete the economy of introducing steel is not always evident and should be demonstrated in any particular case before it is decided that the arch must be reinforced.

The conditions to be met in the construction of reinforced concrete culverts make it desirable, from a standpoint of economy, that a relatively high grade of concrete be used. Any decrease in the strength of the concrete necessitates a corresponding increase in some dimension of the members, and thereby adds to the dead load which the structure must sustain.

Reinforcing bars should be made from steel having a safe strength of not less than 16,000 pounds per square inch, and should possess sufficient malleability to be readily bent into the desired shapes while cold. When placed in concrete they should be free from rust, grease or foreign materials of any kind, otherwise a perfect bond between the bars and the concrete will not be obtained.

Designers of highway bridge and drainage structures are urged not only to investigate the safety and durability of proposed designs, but to consider their esthetic features as well. When bridges and culverts are to be constructed of permanent materials, such as reinforced concrete, the designer should bear constantly in mind the fact that any esthetic defects which may be present in such structures will become more and more apparent as the community develops. For example, a highway bridge, the defects of which are hardly noticeable when the highway on each side is bordered by dilapidated fences and buildings may become a veritable eyesore



Concrete Arch Bridge in the District of Columbia.

If these features of the landscape are sufficiently improved. A design may be in excellent taste, however, and yet be almost totally devoid of ornamentation. A few simple panels and copings are usually sufficient to lend an attractive appearance to masonry bridges, provided the planes of the wing walls, parapets, etc., are in proper relation to each other and to the roadway.

Earth Roads Cheap.

The earth road will doubtless be used in rural communities for many years, because of its low first cost. The ever-recurring problem of upkeep on such a road can be solved very largely by the use of the split-log drag.

Money Wasted.

It is money wasted to spend it for dragging a road that is not piked enough so there is a ditch on either side of the roadway. Better grade first, then keep the grade up by dragging afterwards.

Guard Against Weevils.

All weeds and rubbish should be cleared away from alfalfa fields, ditches and fence rows so there will be no opportunity for weevils to find winter shelter.

Not Good for Potatoes.

Lime-sulphur is not a desirable spray for potatoes. You will injure your potatoes by applying the lime sulphur spray.

Indication of Weakness.

Excessive sweating indicates weakness, and hot weather is hard on a weak horse.

Working Team of Colts.

Never work a team of colts together until they have been thoroughly broken, as they will worry each other.