prescribe that practice of carrying vases of water on their heads to the families they attend, round shoulders and crooked spines would not be so common as they are. A small bag of dry sand, of a weight proportioned to her age, to be carried on the head of a young girl without being held by her hands, would have the same effect. She should first learn to carry it across the room, and then she should learn to carry it up and down stairs for half an hour every morning before breakfast, and again in the evening. In a number of the Ladies' Pictorial (Loudon, Eng.) which has lately reached me I observe two full-length figures of fashionable ladies which resemble nothing so much as a pair of highly elongated mud-waspa, small in the middle and large at each end.

By chance I saw a recent copy of the Berlin News, in which a gentleman professes to be shocked because he saw a picture in a dry goods store window of a lady with a pair of corsets on. He says:—"I notice, and object to, a picture now on exhibition in some of our store windows, of a female figure in summer attire; a lady apparently not ashamed of herself in a corset. Certainly there is another garment on the figure, but it is very indelicate, and, in my opinion, instead of being an inducement for a lady—after looking at the picture—to buy a corset of that particular kind, I should say it would make that or anyother lady blush and pass on as that or anyother lady blush and pass on as quick as possible." Now, madam, just tell me, if you do not think this is the very height of mock modesty?

A CITY LADY. EVILS OF TIGHT LACING. It has always been real pleasure to me as a

native of Canada to see a copy of your excel-lent paper, but this morning I was shocked to read the startling letters written to the editor of the "Woman's Kingdom," on the subject of tight lacing. I must beg you kind-ly to let me say one word of warning, simply to tell my experience of a visit last week to English country home. I have known the eldest daughter almost from her childhood. She had laced dreadfully, but apparently never felt a bit the worse for it uni years ago when she married. From that time she has not known what it is to be free from pain. She has one delicate child, whose birth nearly cost her her life. And all this is attributed by the doctors who have been consulted to the mischief caused by tight lacing.
A son of the house has married a pretty tall girl with a "perfect" figure and a waist of nineteen inches. She is never well. He took her to a celebrated London medico, who declared that the harm this girl had brought about by tight lacing would probably never be undone. These are only the two last instances in a dozen I and then to think of the poor little children being punished because nature prompted them to save themselves. When the lesson is learnt, what has the young girl been taught? That it is right to risk her own health and that of tuture generations for the sake of appearing to men with a waist a few What sort of women, what sort of mothers must we expect? We all know what the last age of tight lacing was. Surely the sin is greater now that the laws of health have been explained far and wide. Is the game worth the candle? I do not agree with those who argue that everybody can afford to give up stays, but I do think that many and many a slight delicate girl (and there are surely still some in Canada) who would gain in health, grace, and comfort by learning to go without them. There is a general belief that girl who does not wear stays must look sloppy, untidy, dowdy. Of course a too-too esthetic person likes to flop about, and dress. reformers as a rule prefer being remarkable. But all I can say is that one of my own daughters never wears stays of any sort. No daugnters never wears stays or any sort. No one could look smarter or neater, and she has every sort of garment fitting to perfection, from tailor-made gowns to humble little otton frocks, turned out by her own maid. BABA-EL-KEBIR.

A GOOD FIGURE WITHOUT CORSETS. "A Mother" says she did not commence yearing stays till she was nineteen, and that she does not now wear them constantly, yet she has a good figure. This seems to me a extraordinary statement. Would "Mother mind telling us her height, how much she measures round the bust, round the hips, and round the waist.

A TIGHT-LACER. A SUBSTITUTE FOR THE ROD. I see that some mothers can be found who still use and advocate the use of the barbarous rod. I think flogging is hardening. We have no right to torture our children as slaves

South Kensington, London, Eng.

were tortured down south. But I hear some one saying "children must be punished." Certainly, but not with the rod. This is my Certainly, but not with the rod. This is my plan. When one of my children has com-mitted a serious offence, the culprit is punished by the deprivation of a meal, sometimes two and very rarely three. The offender has to sit down to the table with the family, but is only handed an empty plate and has to remain quietly looking on while the others are enjoying their meal. I do not believe the occasional deprivation of a meal is injurious to the health; while the sharp pangs of hunger the health; while the sharp pangs of nanger felt by a growing boy or girl are strongly terrent, and in this punishment there is thing brutalizing or degrading. FATHER OF A FAMILY.

GOVERNING CHILDREN BY KINDNESS. I try to govern my children by kindness and firmness combined, and would have succeeded still better in restraining their self-

will if it had not been for some other relatives who did their best to spoil them, not, how-ever, out of unkindness to me or the children, but a want of firmness. When the little boy was quite small I made it a rule never to give way. If no had to be said, it was final, so I had very little trouble with him, but my girl was more obstinate, and had been left more with friends who would give way for her repeated asking, so she was more difficult to govern. When they were more difficult to govern. When they were smaller than now I have sometimes struck their little hands slightly, but prefer to do without that even. Now, that they are older, if they wilfully disobey, I punish by deprivation of some accustomed pleasure, or in some way like that. It is seldom they do so or refuse to do what I ask. I always request them as nicely as I would their father, and they are seldom commanded. Of course, if my method should yet fail me. I might take the rod as alast resort. I know a most excellent mother who never struck her two cellent mother who never struck her two stepchildren a blow during seven or eight years since she had control of them—she seats talks to them, or gives them a task. They are even better behaved than mine, E. H.

MARRIAGE ETIQUETTE. I always take great pleasure in reading your answers to correspondents in your paper, and I consider that the information I receive from them alone is worth all I pay each year for the paper. I understand that you will for the paper. I understand that you will answer any proper question asked by a subscriber, so I make bold enough to ask a few questions, so as to decide a strong argument that another party and I had lately in respect to the following points:—(I) If a young couple is married in church, what is the proper mode of entering and going to the altar by the bride and groom? (2) If the minisper mode of entering and going to the altar by the bride and grown? (2) If the minis-ter and his lady go home with the wed-ding party, who should head the procession? (3) If the parents of the bride are alive and present on this occasion ought not the father to take the head of the table, the mother the foot, the bride on her father's right hand, the minister on his left; if not, please state how the guests should be seated. (4) When the bridal party comes to church the first Sun-day after the wedding, what is the proper mode or position for them to enter the church and be seated.

(1) The bride goes first on the arm of her-father, or whoever gives her away, (2) The

(1) The bride goes first on the arm of her father, or whoever gives her away. (2) The minister, as such, has no special place assigned to him. (3) The father takes the head of table, the mother the foot, and the bride and groom are seated together at the side of the table, to the right of the father, and middistance between him and the mo The young couple enter the church the groom precedes the bride up but she enters the pew first.

AGRICULTURAL.

AGRICULTURAL.

The carlomana requastly displayed by the special control of the co

The promoted experience of the Bulletin State of the Control of th

before the Agricultural Commission in 1880, when Professor Brown, of the Ontario Agripultural College, said : "There seems to be no difficulty either in growing what is called often prove an economical allowance for seed-ing to grass or clover. the sugar cane or sorghum. If it will mature its seed and stalk as it does on the top of our high hill at Guelph, it ought to do so in almost any other part of the province, so that anyone who chooses to experiment with it need have no fear of being unsuccessful."
Mr. Alanson Elliott, of Colchester, E sex county, in his evidence said: "We consider it a profitable crop to raise, though the de-mand is not sufficient for us to go into it

such rotation works satisfactorily, Some years ago the United States Agricultural

washington Territory on the other, the re-ports, as may be supposed, being contradic-tory or conflicting in many instances. The result of their labours, however, howed that

sorghum proved profitable in rich bottom lands or in moist, loamy soils, well manured. In some in tances fair crops were

produced in dry, sandy, or gravelly soils, too poor to give a remunerative crop of other plants, but the application of bone dust,

wood ashes, or gypsum greatly increased the crop. It was found that this plant could

for summer and the state of the summer from fire-fanging or burning from excessive fermentation. In winter it keeps the heap from reezing solid, and at any season it makes the manure more soluble.

The object of ploughing is not merely to invert the soil but to pulverize it. Old ground is ike mortar when ploughed wet, and will not break up and become mellow; hence it The above statements certainly demonmight as well be planted without ploughing at all. Sward ground will be partially pul-verized by the elements evolved by the de-composition of the grass roots in the soil. strate that sorghum can be raised here, but there are draw, acks connected with its cultivation that should be considered before any experiments are made, the chief one being that wheat cannot f llow it, as it comes in so late that fall ploughing is interfered with.
Mr. Elliott, however, says that the farmers in his locality got over that difficulty by planting corn after sorghum, and they find

The best test of a good farmer is the thoroughness with which the manure is cleaned out from his barnyard. The odd places where rich deposits have been accumulating for years should all be cleared, and if this removes more soil than can be spared, replace with sods from the roadside, which, when Society went into this subject thoroughly, for which purpose seed was produced from France and distributed in ninety different localities, between New Brunswick in Canada and Mexico on the one hand, and Florida and has its vitality. saturated with manure, are the richest kind

sowing too little grass seed to the acre.

more seed is sown a stiffer sod is obtained

and there is much less opportunity for weeds

to grow. Even twice the usual amount will

We have found a little salt sprinkled on a

manure heap one of the best applications both for summer and winter. In warm weather it

The experience of many farmers this year shows that corn frozen solid while yet damp has its vitality entirely destroyed. The losses are not so great as they would have been but for the fact that corn was suspected of being poor seed, and shrewd farmers tested it before planting. It is probable that unnoted losses in the corn crop occur from this cause every year.

A farmer who claims to have tested the

matter, says that upon soit ground he can draw two toms with wheels that have a four-inch tire as easily as one ton upon those with a two and a half inch tire. As farmers' waggons are used in crossing meadow lanes and plough d lands as much as for any purpose, it will be well to bear this in mind when ordering wheels for farm wagcrop. It was found that this plant could endure cold much better than corn, resisted, without injury, ordinary autumnal frosts, and withstood excessive drought. In favourable seasons when planted in May it ripened in September, but later planting was not prejudicial, as experiments were made in the Northern States by planting it in June, the results being satisfactory. The cost and criture of sorghum does not differ materially from that of corn, and if it is intended for fodder it may be sown broadcast. The weight of the entire crop to the acre, when

prejudicial, as experiments were made in the Northern States by planting it in June, the results being satisfactory. The cost and culture of sorghum does not differ materially from that of corn, and if it is intended for fodder it may be sown broadcast. The weight of the entire crop to the acre, when green, varies from ten to forty tons, and the amount of seed to the acre ranges from fifteen to sixty bushels. The opinion expressed by the society alluded to was that sorghum was no more profitable than any other crop for the Nor hern States, and later experiments have not led impartial persons to question the indigment then passed.

If gr. wn for fodder sorghum would prove a good investment in many portions of Canada, as it is wholesome, nutritious, and economical, all parts of it being greedily devoured in a green or dried state by horses, cattle, sheep, or swine, without injurious effect, the latter fattening upon it as well as upon corn. In the last report of the Kansas Board of Agriculture, a successful grower, who has cultivated sorghum for six years, gives his experience thus:

"I plant any time between May 20th to June 20th, using a corn-planter. Cultivate exactly as you would corn, and make thorough work. The plant will be ready to out and put in shock by September 1st, at which time cut and shock the same as corn, letting it remain in the field until it is wanted for feed in the winter. It makes excellent feed is novered with snow. I only feed sorghum is covered with snow. I only feed sorghum is an and the solidate.

To secure the best success corn should to planted, or rather drilled, on a freshly turned clover sod, ploughted with as large growth of top as can be secured. Early bloughing is act advisable, especially time delever, so the soil will be so the Cultivation of Corn. "I plant any time between May 20th to June 20th, using a corn-planter. Cultivate exactly as you would corn, and make thorough work. The plant will be ready to cut and put in shock by September 1st, at which time cut and shock the same as corn, letting it remain in the field until it is wanted for feed in the winter. It makes excellent feed at any time, and especially when the ground is covered with snow. I only feed sorghum during bad weather, unless I have an unusual supply, when I feed it at all times. It makes a very rich food, and all kinds of stock will eat with a relish, eating it clean, staks a deaves."

Rye for Grain and Fodder.

A correspondent of the New York Tribune says:—" Rye meal, largely used for bread by the farmers of the North of Europe, is not so great a favourite in America, nor has it been estimated at its true value in our country for stock feeding. Later experiments, especially for eatile and swine in store keep, and par-

There is some misunderstanding in regard to the use of oil cake meal. It is generally supposed this feeding substance is valuable only for the fat contained in it. This view does not seem to be sustained by the facts. As in other manufactures, there are "new proces ses" in the making of vegetable oils. The residue of the oil is now extracted from lineed cake after the first pressing, by means of volatile ethereal solvents, such as benzine, which dissolve every particle of the oil, and which dissolve every particle of the oil, and leave the meal so free from oil that it will not even stain paper under heated pressure. Such meal is considered of little value. But this is a mistake. It is of more value in the dairy than the old process meal, because it contains more protein substances, as albumen, mucilage, etc., all of which not only furnish flesh-forming matter, but which also go to form fat. Such meal is of more value in the dairy to mix with starchy food, as corn-meal, because it adds the needed protein, and it is devoid of the oil, which has always given a bad flavour and texture to the butter.

-New York Dairy. Salt for Dairy Cows, A correspondent of the Breeders' Gazette n referring to this subject says :—
' Dafrymen are doubtless somewhat annoy-"Pairymen are Joubless somewhat annoyed at times by their stock chewing or attempting to chew bones and soraps of leather. There is no time in the year when young cows are so crazy for som thing of this sort as in June and July. Of course the appetite continues during the summer, and is worse with some cows than with others. A great many dairy farmers entertain the mistaken belief that the fact that a cow chews bones is an evidence that she has a deprayed and belief that the fact that a cow chews bones is an evidence that she has a depraved appetite. This is not so. I have found in my practice that when an animal chews such things she is suffering for salt. I have seen half a dozen cows, out of twenty, such with a bone in her mouth, when all they wanted was a more liberal supply of salt. I have seen farmers run after their cows to take bones from them, because they thought they injured the cows. I do not think such is the case. Give cows salt every day in the week, and put it where they can have access to it at all times, and see if they still persist in chewing bones. I do not think they will. I have effectually cured my herd of this habit in this manner; and I now take care that they do not have to shew bones."

The recent discovery of the germs of malaria in the water and soil of certain localities, and of which some are related to well-known forms of mildew, may have an interknown forms of mildew, may have an interesting connection with facts occurring in dairying. It is well known that certain localities are exceedingly favourable to the production of tine dairy goods, to choice qualities of butter, or specially flavoured kinds of cheese, and that generally those regions where the water is pure and the malarial diseases are rare are specially adapted to dairying. If the malarial germs are found in all the excretions and secretions, as well as in the blood, of persons suffering from chills and intermittent fevers, and are taken into the system with the drinking water, or breathed in with the fevers, and are taken into the system with the drinking water, or breathed in with the air, and as well are found upon the herbage and in the dew, it is very certain that they will infect the cows and must be found in the milk. While we do not know how they would behave precisely, yet as their characters are such as to be classed as suspicious, their action may be a profitable subject for investigation.—The Dairy.

Milking Young Heifers.

orrespondent of the Breeders' Gazette
his views on the importance of training
heifers to stand quietly while being

visit the flock early in the morning before they stir about, and observe them closely as they get up. If uron getting up you notice that any of the sheep reach round and scratch on the shoulder and hip, and that those places show clean ritbed spots in the wool, the sheep has undoubtedly contracted scab, and you should act on the knowledge. We would advise no one to purchase skeep with-out first making this close examination, as even this may not protect you against buying freshly infected sheep."

How to Feed the Nursing Brood Sow. As all nourishment given to the new-born litter passes first through the digestive organs of the dam, it is of prime importance that the latter be kept in the highest possible state of health. It is too much the practice to confine swine upon concentrated food, especially those not upon pasture. . This has an app cation to brood sows that farrow in advance of the pasture season. It is not sufficiently considered that the hog, in a state of nature, is largely an eater of fibrous food, grass, weeds, and roots. Their digestive organs are adapted to this class of food, and the nealth is quite likely to suffer if it is with-

The hog, as he is bred now, has far more fat in his make-up than before the improve-ment. In fact he had, when fairly fed up, about the same amount of lean as of fat, as grass-eating animals in general. The hog cannot change the original character of the food he eats, so far as its elements are concerned. Therefore, if we would build up the muscular system, thus improving the hog as a maker of bacon and hams, we must rely more upon grass and less upon corn, and other rich fat-forming foods.—National Live Stock Journal, Physicking Horses,

The season is now at hend, asyaMr. Wood forced fail, E.R.Q.V.S., when horses are put upon green food, and the easal preparatory measure of advantagement of the control of The season is now at hand, says.Mr. Wood-

like Holloway's pills or Radway's ready re lief, and with the assistance of Mr. Dahl man, of New York, have been rammed down the Yankee throat holus Percheron has everything to be desired why has it to depend on the United States for its market? European countries and Australia see no particular virtues in them, and the English markets are overrun from year's end

to year's end with foreign buyers.
Strange things turn up occasionally. In travelling last May I happened to be with a Mr. Street near St. Ives, Huntingdonshire, Mr. Street near St. Ives, Huntingdonshire, Eugland. In course of conversation he asked me if I was acquainted with Mr.—, buyer for Mr. Dunham. I told him I had not the pleasure. He then went on to say that he had purchased two grey Shire mares from him (Mr. Street) the previous year, and that he considered them the best mares in the State of Illinois. Two conclusious can be drawn from this either the Percheron mares are not good enough or possibly by mares are not good enough, or possibly by coming in contact with so many French mares would in time learn to talk French like natives. The latter I take it is the most charitable conclusion, more particularly as a mare bred in Canada and sired by old

Gomet once went to Illinois and learned French to perfection.

But, joking apart, what do the Canadians think Percherons will do for them? We have an established breed of draught horses largely infused with Shire and Clydesdale blood, and if Percherons are to be turned loose or the tops of this will be only the control of the same that the same that the control of the same that the loose on the top of this, will we not have confusion worse confounded? fusion worse confounded?

Agricultural papers in Canada do not keep farmers sufficiently posted on all these points, and in the States the influence of large Percheron advertisers to a great extent muzzles the American press. My own idea is that it is impossible to improve on judicious crossing between Shires and Clydesdales. Mr. Drew, as I have shown in the beginning of this letter, has amply exemplified this.

Yours, &c.

C. I. DOUGLAS.

SCIENCE GOSSIP.

Gelle relates the history of a woman who suffered from dealness and infra-arbital neuralgia on the right side for 15 days. The symptoms were relieved by the extraction of a carious tooth.

a carious tooth.

Myopia, with all its attendant annoyances, is increasing in the public schools both here and abroad. Intensity of application to work under the stimulus of competition is one of the principal causes of short-sightedness among children. Imperfectly-lighted school-rooms is another.

A specimen of preserved milk sealed by Nageli in 1872 was opened lately. It had become brownish, and it had acquired a bitter taste. The milk sugar was converted into lactose and dextrose. Sufficient broof was obtained that heating to 120°, under a pressure of from two to four atmospheres, is inadequate to destroy germs.

This employment of dried potatoes is re-

This employment of dried potatoes is recommended by Dr. Kehne: First, they are sliced and then dried in a chicory kiln, whereby 64 to 65 per cent. of their weight is lost. A mash made from such dried potatoes ferments normally. It is expected that this process will be employed with advantage should there be any great outbreak of the potato disease.

All mushrooms, Dr. G. Dupetti finds, contain a poisonous substance when uncooked. Fresh sap taken from the Boietus eviulis administered to rabbits, guinea pigs, and rate by subcutaneous injection caused their death. The sap of Amanita casarea, Amanita rapinata, Amanita rubecens, Agaricus campestris, &c., has a similar action. The poisonous action is due to something in solution and not to extraneous microbes.

This is Schwarz's process of preparing pure

The American Association for the Advancement of Science, in its memorial to the several State Governors on preserving and increasing the forestry supplies, makes, in substance, the following recommendations:—(1) To protect by law trees planted along the highways and to reduce the highways and to reduce the state for along the highways and to reduce taxes for encouraging such planting. (2) To exempt for a time from tax the increased value of land from planting trees in bare regions. (3) To appropriate money to existing societies to be applied as premiums for successful tree-planting. (4) To offer prizes for the best reports and essays on practical forest-raising, to be published and disseminated. (5) To encourage educational institutions in introducing a course of instruction on tree-raising. ing—such as by correctly labelled specimer plantations and the distribution of seeds. (6 To impose penalties for careless or wilfu setting forests on fire, the waste from which cause has in some years greatly exceeded the amount of timber used.

Where the Backboned Animals Begin.
There is much uncertainty as to how the backboned or vertebrate animals begin; but the best clue we have to the mystery is found in a little, half-transparent creature about two inches long, which is still to be found living upon the English shores and the Southern Aflantic coast of the United States. This small, insignificant animal is called the "Lancelet," because it is shaped something like the head of a lance; and it is in many ways so imperfect that naturalists believe it to be a degraded form, like the acorn-barnacle—that is to say, that it has probably lost some of the parts which its ancestors once possessed. But, in any case it is the most simple backboned animal we have, and shows us how the first feeble forms may have lived. Truly, it is only by courtesy that we can call him a backboned animal, for all he has is a cord of gristle, pointed at both ends, which stretches all along the middle of his body above his long, narrow stomach; while above this again is another cord containing his nerve telegraph. There are large fishes, too, which have this cartilaginous backbone. The young shark has nothing but a rod of gristle or cartilage, and, though he is one of the strongest of sea-animals, he retains this gristly state of his skeleton throughout life; however much he may strengthen it by hard matter, it never becomes true bone. The first feeble ancestors of the shark and the sturgeon appear at a time when the crustaceans were the most powerful animals in the world, when the huge, lobster-like Pterygotus was the monarch of the seas. The plated-scaled fish which existed at the same time were clumsy creatures, for their skeletons were probably feeble, and their armour-like shields were heavy. So, as history went on, they gradually gave way, becoming smaller and rarer, while the more active little shark-like animals gradually grew strong and powerful, and from them are descended the giant sharks of to-day. The powerful gristly-boned fishes are much excelled in agility by th Where the Backboned Animals Begin,



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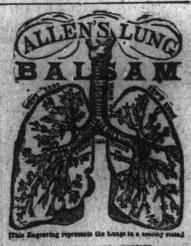
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