

AGRICULTURAL.

Few realize how dependent we are for our fruit crop upon the ministrations of bees and other insects. The tree fruits are especially influenced by the visits of insects whose mission it is, all unawares, to distribute the pollen. The apple, for instance, has five beautiful pink petals surrounding the yellow pollen-bearing stamens in the centre. Each of these blossoms has five stigmas, and each stigma is connected with the core fruit. At the proper time the tiny nectaries are filled with nectar, when the flower is prepared to receive the pollen grains from the dusty bees as they are fitting among them, intent only upon their own crazy greed for the honey, wholly unconscious of the wonderful part they are playing in a still more wonderful nature. But there are five of these stigmas, and without a distinct fertilization of each one separately an imperfect fruit is formed, which in most cases constitutes the windfalls. Opposite the hollow cheek on an apple will be found immature seeds, showing that an imperfect fertilization had taken place, if any at all, in that particular pistil. The apple being one of a large class of blossoms in which the anther and pistil of the same flower do not mature at the same time, self-fertilization is impossible, and a cross must be obtained from another blossom of the same species of plant. Gooseberries, currants and raspberries are also largely indebted to insect life for the fruit they bear, and in the last two undeveloped parts are often found due to imperfect fertilization, as in the apple and clover.

It has been stated that unless we have a few hours of sunshine when early cherries are in bloom we shall have no cherries at all, and we frequently have a season when cold rain storms so prevent the bees from getting out that not a cherry is produced.

Manuring Wheat.

The manuring of wheat in spring, if the ground is in a high state of fertility, may not be required, and would probably do harm, as, when the plant is forced too much the disease known as "rust," or "red gum" is sure to attack the crop. The colour of the plant is the surest indication as to whether manure is or is not required. When the plants look paler than usual it shows that there is an absence of the necessary amount of nitrogenous food; and to remedy this, the application of 1 cwt. of nitrate of soda in April is recommended. It is well to mix the nitrate with about two bushels of ashes, as it will be more evenly spread, and as the nitrate of soda is scarcely soluble, the chances of its being washed away before the plant can make use of it will be lessened, if it is sown at two different times, a fortnight's interval between each. It is calculated that 7 cwt. of nitrate of soda gives an increase of four bushels of grain, and half ton of straw per acre. Unless the land is in a fairly fertile condition the application of nitrogenous manures alone is not advisable. These manures merely act as stimulants, and unless there is plenty of other food available in the soil to back them up and keep the plant going, after the temporary assistance of the nitrate or sulphate of ammonia has passed off, the crop will fall away and deteriorate greatly toward the harvest, and be in a worse position than it would have been had no stimulant been applied. When, therefore, dealing with land in a low state of fertility, manures of a more general character should be employed, as for instance 2 or 3 cwt. of superphosphate or guano. Soot is frequently used as a topdressing for wheat early in spring at the rate of 20 or 30 bushels per acre; it produces similar results to nitrate of soda, and the remarks made with reference to that manure apply also in this case. Soot is recommended as a remedy for slugs, but no topdressing is as effectual as salt, which also increases the strength of straw.

Costly Scrubs.

I attended an auction lately where some yearling steers sold for \$8 a head. I sold a yearling to-day for \$16, and could sell any number of such steers at this figure. I took some pains in breeding mine; my neighbor did not. I have a two-year-old heifer which girths, just back of the forelegs, 80 inches; just forward of the hind-legs, 87 inches. She has a fine head, and her ribs spring out nearly straight from the back-bone. She has a fine-shaped udder and a good escutcheon. I anticipate a great milker and good breeder. She, and the yearling just sold, are from a good, common cow, served by a purebred Durham bull. Now, any farmer can do as well as this.

By a little care and judgment in selecting breeding animals—mares, cows, ewes and swine, and breeding to pure-blood males, one can double the return from stock sales in a very short time, while the money out will be very little more than if one kept scrub stock. Another thing: A thrifty animal, well kept from the start, is ready for market any time. Some cows though having good points, do not prove good breeders—their calves do not start and grow and develop early. Such animals should be got off the farm as soon as practicable. It is surprising to see how many such animals there are in every neighborhood, and farmers complain they are not getting prices they should for their stock.—[Charles Betts.

How to Raise Turkeys.

Turkeys are considered by many farmers very delicate and hard to raise, and for this reason they are not found on many farms. If farmers understood their nature better, turkeys would become more common. Every poultry man or farmer that has ten acres of land or more can easily raise turkeys to advantage; if the conditions are favorable they are one of the most profitable kinds of poultry to raise. Get a pure breed, either for market or home use. Such are cheaper in the long run, and do not let size be the only qualification; a flock of good medium sized, square bodied well matured birds at Thanksgiving time, is what you want. Two plump, ten-pound turkeys will bring more money at that time than one lean, lank fellow that weighs twenty pounds. I do not strive to get size in my breeders, either male or female. We do this for the reason that the eggs of the largest hens are not as large as those from fair to good sized birds, and it is pretty generally conceded that for active vitality and sure breeding the male must not be too large.

It is mostly a question of feed as relates to size and heavy weights. I have taken the common turkey and made them weigh twenty-five pounds in two years. With

pure breeds of turkeys a good weight can be made with ordinary care and a small amount of feed. Here lies the superiority of the thoroughbred over the scrub. In picking out hens do not let great weight influence you. Good form, fine stout legs, square bodies and breast, are what is wanted. Much the same will be proper with the male in buying. He should not be related to the females. One male is sufficient for a dozen females, all things considered. I have found the White Holland turkey the most profitable for the farmer to raise, as they are hardy, mature early, are docile in disposition, not inclined to stray off and fall victims to hawks and skunks. Like the wilder varieties in quality of flesh, they are par excellence as table fowls and prolific layers of good sized eggs.

Desiring to raise as many as possible to the number of hens kept for breeding purposes, I set the first laying of eggs the turkey hens lay, under the chicken hens. When they hatch I examine to see if they have any vermine on them; if so, I dust them with insect powder and keep them cooped closely for three or four days, until they get used to the call of the hen. If allowed to run out they are likely to stray after any hen that comes along. I feed often and very sparingly the first week, with hard boiled eggs and corn bread crumbs, with a little barley meal, onion tops and lettuce chopped fine. Milk should be given them as a drink, as it keeps them in a healthy condition. Corn meal dough should not be given them, as they are liable to diarrhoea, and it increases that tendency. Their food should be strictly fresh. Keep cooped in the morning until the dew is off the grass, until they are six weeks old, for cold spring rains and dew are fatal to young turkeys. The second laying of eggs I let the turkey hen sit on and raise the brood. I do not pay much attention to them except to feed a little each evening to get them accustomed to come up at night, and keep them growing. They will pick up most of their living in their rambles. Productiveness depends on the care. If you breed thoroughbreds, breed only from the best, and if you succeed in raising good birds let it be known by exhibiting and advertising. The owner of really good, high-scoring stock usually gets for them all his conscience will allow him to ask.

A Horse's Sense of Smell.

The horse will leave musty hay untouched in his bin, however hungry. He will not drink of water objectionable to his questioning sniff, or from a bucket which some odor makes offensive, however thirsty. His intelligent nostril will widen, quiver and query over the daintiest bit offered by the fairest of hands, with coaxings that would make a mortal shut his eyes and swallow a nauseous mouthful at a gulp.

A mare is never satisfied by either sight or whinny that her colt is really her own, until she has a certified nasal certificate to the fact. A blind horse, now living, will not allow the approach of any stranger without showing signs of anger not safely to be disregarded. The distinction is evidently made by his sense of smell, and at a considerable distance. Blind horses, as a rule, will gallop wildly about a pasture without striking the surrounding fence. The sense of smell informs them of its proximity. Others will, when loosened from the stable, go directly to the gate or bars opened to their accustomed feeding grounds, and when desiring to return, after hours of careless wandering, will distinguish one outlet and patiently await its opening. The odor of that particular part of the fence is their pilot to it.

The horse in browsing, or while gathering herbage with its lips, is guided in its choice of proper food entirely by its nostrils. Blind horses do not make mistakes in their diet. In the temple of Olympus a bronze horse was exhibited, at the sight of which six real horses experienced the most violent emotions. Aelian judiciously observes that the most perfect art could not imitate nature sufficiently well to produce so strong an illusion. Like Pliny and Pausanias, he consequently affirms that "in casting the statue, a magician had thrown Hippomanes upon it," which by the odor of the plant deceived the horses, and therein we have the secret of the miracle. The scent alone of a buffalo robe will cause many horses to evince lively terror, and the floating scent of a railroad train will frighten some long after the locomotive is out of sight and hearing.

Every Farmer Should be a Painter.

Every farmer ought to learn how to use the paint brush. Then at odd times he can do much at home improvement that without this accomplishment would certainly go undone. Paint itself is not so expensive as its application. Occasionally a city painter will break over the trade union regulations when out of a job and hard up and work at prices that farmers can afford to pay. But in all such cases they are very particular not to be found out, as if industry could ever be a discredit. We do not especially blame those who paint for a living for asking high wages. To work continuously in paints, especially of lead, is unhealthy. Herein is another reason why the farmer may often with the best of motives do his own painting. "What," it will be asked, "if it is an unhealthy business?" Yes, because to do a little painting will not injure any one. It is the constant employment in forms of lead and other mineral poisons that breaks down health and shortens life. Considering how easily the painter's trade, at least for common work, may be learned, there is reason in the argument that everybody ought to know and do a little of it. Country life, especially, would be brighter if old and young on the farm took their turns at brightening it with paint. Wagons, tools and farm buildings of all kinds are more durable when painted frequently, and painted they will not be, as experience proves, unless the farmer does it himself. The division of labor that in most other things works well is a mistake here. In the country at least each man may do some painting with benefit to himself, and prevent the entailment of misery and early death on a class of professional painters.

When it takes a fellow eighteen minutes to assist a girl to don her sealskin sacque the natural inference is that he hopes to be more than a brother to her.

A miner's wife, noted for her large family, was always grumbling that she could not keep them clean. One day bidly was returning home from the town with a large tub on her shoulder. A neighbor happening to meet her says to her:—"Biddy, why have you bought such a big tub?"—"Sure, and it's for me children. I can put two in at once. The time I am washing the one the other can be sleeping."

HOW TO HANDLE A SHOT GUN.

BY MAURICE THOMPSON.

The first good shotgun that I ever saw was a double-barreled, flint-locked one, whose stock had been made out of a curly maple root, and whose mountings were of pewter. It was a clumsy affair, but its barrels were as good and as fine as any that I have since seen. I remember very well the carvings on the breech and fore part of the stock, all of which were rude but singularly effective, presentations of birds and other animals. The locks were beautifully engraved, and the barrels were as bright as silver.

It was of Spanish make, and had been brought from Mexico in the time of our war with that country. The original stock, however, had been replaced by the "homemade" one which I have described.

The barrels were 34 inches long and about equal in bore to our 16-gauge pieces. I mention this gun on account of the young man who used it, for he was the surest wing shot that I ever saw pull trigger. In a trial of skill he killed 41 quails before missing one, and that, too, in bad sassafras cover, where the birds rose out of most difficult places.

How had he become so proficient? To such an inquiry I should answer: "He always kept cool and always looked at his bird." Really this thing of looking at your bird, simple as it may seem, is the largest part of successful shooting on the wing with the shotgun. The shooter who looks at his gun when about to fire is never a brilliant marksman.

While you are bearing this rule in mind let me tell you how to learn to aim a shot-gun. It is a very simple thing when you have mastered it.

Lift the weapon with both hands, the right clasp the stock just below the guard, the left supporting the barrels. Look with both eyes steadily at the object to be shot at, and at the same time bring the mid-rib of the barrels straight under the line of vision of the right eye. Pull the trigger instantly. Never attempt to sight along the rib, but simply be aware that the gun is directly under your line of aim. So soon as you are able to point your weapon without looking directly at it you may be sure that the worst is over, and that you will be a fair shot after a little practice.

When you are ready to go into the field to shoot game you must keep well in mind the following rules for handling your gun:

1. Never let the muzzle of your piece point at any person.
2. Always carry your gun with the muzzle pointing away from you.
3. When climbing a fence put your gun over first, after taking out both the shells.
4. Never drag a gun toward you.

Nearly half the accidents that have happened to boys from handling of guns have been owing to the neglect of the fourth of the above rules.

Most boys know that it is considered un-sportsmanlike to shoot at any bird when it is not flying, or at any hare or rabbit that is not running. It is the law of "polite shooting" that the game must have a fair chance to escape, especially when the shotgun is used.

Target practice is well enough to train the shooter in aiming, but there is no way of learning to shoot game, save going into the field and banging away at it. No matter how much you have fired at moving targets, the first quail that rises before you is pretty sure to escape. The sound of its wings will probably so frighten you that you will stand with your mouth open and staring eyes until it has disappeared. Then you will wonder why you didn't shoot.

Even after you have learned to control your nerves you will find it very hard at first to hit your bird, because you will forget to aim ahead of it if flying across your line of sight, or above if rising, or below if flying downward. This making allowance for flight can be learned only by practice. No rule can be laid down for it. Usually in beginning you will make too much allowance. It is when shooting at strong-flying water fowl that the need of making great allowance is most urgent; but even then the allowance is not more than 10 or 12 feet in 40 yards.

In hare shooting it is necessary to "allow" for running by aiming a trifle above the game when it is running straight away from you. This is because your line of sight is above it as you stand.

The shotgun requires the very best of care in order to do good work. It must be kept perfectly clean, and must always be loaded to suit its "habit," as I call it. By this I mean that each gun has a capacity or quality for shooting a certain load best, and any other load will lessen its effectiveness. By a little experimenting you can find out the load that suits your piece.

Carry your gun on your shoulder with the muzzle elevated and the hammers down, save when you are expecting game to rise, then you may hold it at "ready" which is as follows: Cook both barrels, grasp the stock with the right hand, as in firing, and sustain the barrels at an upward angle in the left hand, just in front of and across the breast, the breech-heel a little below the right elbow. This gives perfect freedom of action when the game rises. Moreover it is the safest position in which to carry the gun, both for yourself and your companions, if you have any.

Never be in a hurry with a gun, no matter what the apparent emergency: it is the deliberate and cool sportsman that is quickest and surest. Remember that what is done as a habit is done perfectly, and all that you have to do to make a crack shot of yourself is to learn to fire habitually by the most approved rule.

When a bird rises before you the first thing to do is to get your eyes fixed steadily on it, and the next thing is to bring your gun to bear on your point of aim by a single motion, while at the same instant you fire the right-hand barrel. If you miss, move the gun again by a steady but swift movement to the new point of aim, and fire the left-hand barrel.

Now, boys, remember and be careful; for the gun is a good friend to the prudent and cautious shooter, but a terrible enemy to the careless and imprudent one.

A general system for performing all work thoroughly and in the best manner will greatly exceed in profit any slipshod farming.

The Government fish hatchery, at Lester river, Minn., has placed in Lake Superior this Spring already 10,000,000 white fish fry, and in a few weeks more 15,000,000 more will be committed to those waters. It is estimated that about one-fourth of these fry will survive, and that it will require about four years to mature.

SUNDAY READING.

Kneeling at the Threshold.

I'm kneeling at the threshold, weary, faint, and sore.
Waiting for the dawning, for the opening of the door;
Waiting till the Master shall bid me rise and come
To the glory of his presence, to the gladness of his home.

A weary path I've travelled, 'mid darkness, storm, and strife,
Bearing many a burden, struggling for my life;
But now the morn is breaking, my toil will soon be o'er;
I'm kneeling at the threshold, my hand is on the door.

Methinks I hear the voice of the blessed as they stand
Singing in the sunshine of the far-off, sinless land:
Oh, would that I were with them, amid the shining throng,
Mingling in their worship, and joining in their song.

The friends that started with me have entered long ago;
One by one they left me struggling with the foe;
Their pilgrimage was shorter, their triumph sooner won;
How lovingly they'll hail me when all my toil is done!

With them the blessed angels, that know no grief nor sin,
I see them by the portal prepared to let me in;
O Lord, I wait thy pleasure, thy time and way are best.
But I'm wasted, worn, and weary; O Father bid me rest!

W. L. ALEXANDER.

Golden Thoughts for Every Day.

Monday—
More things are wrought by prayer
Than this world dreams of. Wherefore, let thy voice

Rise like a fountain for me night and day.
For what are men better than sheep or goats,
That nourish a blind life within the brain,
If, knowing God, they lift not hands of prayer,
Both for themselves and those who call them friend?

For so, the whole round earth is every way
Bound by gold chains about the feet of God.
—LORD TENNYSON.

Tuesday—So distinguished by a Divine wisdom, power and goodness, are God's works of creation and providence, that all nature, by the gentle voices of her skies and streams, of her fields and forests, as well as by the roar of the breakers, the crash of thunder, the rumbling earthquake, the fiery volcano, and the destroying hurricane, echoes the closing sentence of this angel hymn, "Holy, holy, holy is the Lord God Almighty, the whole earth is full of His glory!"—THOMAS GUTHRIE.

Wednesday—Yet there Thou art. The tenderness of Thine infinitude looks upon me from these heavens. Thou art in them and in me. Because Thou thinkest, I think. I am thine—all Thine—I abandon myself to Thee. Fill me with Thyself. When I am full of Thee, my griefs themselves will grow golden in thy sunlight. Thou holdest them and their cause, and will find some nobler atonement between them than we forgetfulness and the death of love. Lord, let me help those that are wretched because they do not know thee. Let me tell them that Thou, the life, must needs suffer for and with them, that they may be made partakers of Thy ineffable peace. My life is hid in Thine, take me in thy hand.—GEORGE MACDONALD.

Thursday—
It is the Mynd that maketh good or ill,
That maketh wretch or happy, rich or poor;

For some, that hath abundance at his will,
Hath not enough, but wants in greatest store;

And other, that hath little, asks no more,
But in that little is both rich and wise;
For wisdom is most riches; fools therefore,
They are which fortune doe by vows de-
vise.

Sith each unto himself his life may fortune-
nize.
—EDMUND SPENSER.

Friday—It is enough for God if He limits April to thirty days; He does not wait it on the thirty-first day; it ceases, and goes back into His great heaven, and May begins. He does not bring back eighteen seventy into eighteen seventy-one, and say, "There, I have brushed it up for you, and made the best of it I can; you must try it again." No. He takes the years, blows them away; creates new ones; never gives you an old leaf, or tells you to put a faded flower into water and try to get up its colors and fragrance again. "He is able to do exceeding abundantly above all that we ask or think."—JOSEPH PARKER.

Saturday—
"Let not your heart be troubled," then He said,
"My Father's house has mansions large and fair;

I go before you to prepare your place;
I will return to take you with me there."
And since that hour, the awful foe is charm-
ed,

And life and death are glorified and fair:
Whither he went, we know—the way we know,
And with firm steps press on to meet Him there.
—MRS. H. B. STOWE.

Canon Liddon on the Triumphs of Faith.

Preaching recently at St. Paul's Cathedral from the Epistle for the day, Canon Liddon said that the vow of Renunciation, a condition of our baptism, implied a moral victory over the world. He traced the various meanings of the word world as used by different writers in Holy Scripture, and illustrated the influence of the world (in its sense of human nature alienated from God) in Apostolic ages, the Roman Empire, and in successive periods of the world's history down to our own day. He pointed out how the worldly spirit was manifested in the Church and the cloister, though faith had her triumphs in such lives as those of St. Louis of France, St. Bernard, and St. Thomas a Kempis, who lived above the world. Alluding to modern times, he referred to the Evangelical move-

ent, and to that which commenced at Oxford fifty-seven years ago, where it was alleged that the victory of faith over the world had fallen out of place both in preaching and practice. Why was that so? There seemed to be two reasons—namely, that even good men feared being hypocrites, while it was thought that we should neglect the duties of this life if we took the language of the Gospel too literally. The world was equally near the poor man and the prince, the clergyman and the layman. The preacher then showed the influence of the world in different periods of life: in youth and early life it presents itself in the fascinating form of the smiling landlord of an hotel who greets the traveller at the door, carefully avoiding any reference to the bill which will be duly presented at the close of the visit—a marked contrast to the greater frankness of the Bible. In middle age the world tyrannizes over us from outside, while in later life it takes possession of us, and is as the very air we breathe. But at each stage of the struggle with the world Faith is the victor over the enemy; even when worldliness permeates our being like a London fog, Faith takes us by the hand till, as from the outside gallery of the Cathedral on a winter's day, we can look down upon the mists which envelop the city—we can rise above worldly desires. To see our Lord, the true Sun of Righteousness, as does the Christian, is to have taken the world's measure, and to have parted company with it now and for ever.

A New Way to Build a Church.

Five men connected with Dr. Talmage's church, Brooklyn, who practically manage the affairs of the Tabernacle, are said to be so highly favored of fortune that they could supply the \$150,000 required for the proposed new church, and never miss the money. Instead, however, of showing their appreciation of Christianity, and witnessing to the benefits they have received by an ocular demonstration which the world could not gainsay, they have, for the purpose of raising the required amount, resorted to means which, if not questionable under any circumstances, are certainly of doubtful propriety in their case. One of their brightest ideas is the offer of a valuable piano to the person sending in the largest number of subscriptions to the *Christian Herald*, which appears to be under the control of the church. Another is a proposition to give a five-hundred dollar organ to the church having the greatest number of votes, such votes to be in the nature of ballots printed in this same paper. Other inducements are in the shape of chairs, a terra cotta bust of Dr. Talmage, and a picture of the new Tabernacle. Thus far the members of the church, who are the real beneficiaries of all these attempts to raise money, have not subscribed a cent. The adoption of such expedients on the part of a congregation abundantly able to rise and build a house for the Lord out of their own resources is extremely censurable, and does more than all the attacks of unbelievers to curtail the church's influence and lessen her power. The wonder is when one comes to think of the burdens imposed upon Christianity by her so-called friends, not that she makes so little progress in the world, but that she continues to attract in any measure those that are without. Were Christianity a merely human system her friends would have killed her long ago.

Helped Napoleon to Escape.

There has just died at Rouen a man who played an important part in the history of France. His name was Thorel, and he was one of the principal actors in the escape of Napoleon III. from imprisonment in the Castle of Ham in 1846. Mr. Thorel was a drummer at the time, and drove his trap between the various towns and villages of the departments of Somme and the Pas-de-Calais. In the discharge of his commercial duties he came into contact with Thelin the devoted servant of the imprisoned prince, and was induced by him to co-operate in the escape. It was in Thorel's vehicle that Napoleon got away, and it was Thorel also who provided him with clothes and other articles of which he stood in need at the time. M. Thorel was not forgotten when Napoleon became emperor. He was made a knight of the Legion of Honor, and was aided financially to such an extent that he was able to give up the road and settle down as a prosperous merchant in Rouen. For many years he filled the office of consular-general for the district in which he resided.

Japan Is Advancing.

Japan's Parliament, which is to meet for the first time next November, will more nearly resemble the British Parliament than any other legislative body, but its House of Lords will be an improvement on the English Upper House. Besides the hereditary nobles who are to sit in this body there will be three other classes of members. The Counts, Viscounts and Barons will select one-fifth of their own number to sit in the Upper House; the Emperor will appoint a certain number of learned men to be members for life, and each Province will send to it one representative to be chosen by the fifteen largest taxpayers. The Lower House will be very much like the House of Commons, the members being chosen by the electors with a tax qualification upon voters. The House of Peers, it is to be observed, is founded upon aristocracies of blood, of learning and of money. In this respect it is superior to other aristocratic bodies of legislators, which often leave learning out of the question and respect only blood and money.

The Behring Sea.

Secretary of State, J. G. Blaine, has at length abandoned the position that the United States has absolute jurisdiction over the Behring Sea. What the influences were that operated to effect this change in views does not appear, and it is useless to speculate. As a consequence of the surrender, however, it is expected that the Canadian vessel owners will be compensated for the loss of their vessels which were seized by the United States revenue cutters. The amount it is hoped to secure is \$200,000. Moreover the surrender has opened up the way for the British government to enter into any reasonable arrangement with the United States for the protection of the seal fishery in these waters. Of course the regulations would need to be restricted to such provisions as indisputable facts may show to be essential to a preservation of the seal herds resorting to Behring Sea, the revenue interests of the United States and the pecuniary interests of the lessees of the seal islands not coming within the scope of international cognizance.