

Soils and Crops

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Free Range Poultry Problems.

There are many advantages to raising the young stock on free range, but this does not mean that they can be turned loose without care until ready for the laying-houses. The colony houses should be located on well-drained ground near some form of shade that will act as a protection against sun and wind. An orchard or near an evergreen windbreak makes an ideal spot.

The watering of the free range poultry is an important factor in their development. Allowing birds to be without water for a few hours on a hot summer day will seriously injure them and retard growth. The water supply must be adequate. It must be given frequent attention to be sure the supply is sufficient and if automatic fountains are used they must be examined to see that the feed pipe is not clogged up.

Poultrymen with a spring or brook in their meadows have an ideal method of watering the growing birds. Some poultrymen haul the water to the range each day in barrels on a stone-boat. The water is then dipped into the galvanized pails or crocks. Occasionally a poultryman has the water supply piped to the range in order to save labor. When large barrels of water are inverted on the range with the idea of furnishing several days' supply, a danger exists. The water may become warm and stale or the barrels covered with a dirty scum which seems to make it unhealthful for the birds. Unclean drinking water is one of the common causes of digestive troubles in poultry during hot weather and the important point is not so much to save labor as to furnish those birds with a supply of pure fresh water at all times.

Pests and thieves are another of the free range poultry problems. Weasels and rats can be eliminated by raising the colony houses about a foot from the ground. This furnishes no breeding places beneath the houses. Stone heaps and brush piles should also be removed to keep pests away from the range. A good watch dog that will run at hawks which swoop near the ground is a great protection to the poultry. Steel traps on poles will snare some of them. Hanging a dead hawk to a pole on the range will also help to keep them away. One poultryman reports hanging some bits of bright tin to a pole on the range. The flashing of the sun against the tin seemed to keep the hawks away from the range.

Locking each colony house at sundown seems to help in preventing poultry thieves. Then the poultryman can tell if any thief has entered the house. The lock seems to keep them from trying to enter. A good dog kennelled on the range will usually give the alarm promptly and frighten away any prowlers after poultry.

Colony houses on free range give the poultryman a chance to raise his

birds under ideal conditions. But the same sanitary precautions must be taken as with laying-houses. The small houses must be frequently cleaned and sprayed and the roosts painted with kerosene or some lice paint to keep down the red mites.

Utilizing Fall Pastures.

At present prices for grain feeds every effort possible should be made to make profitable use of late fall pasturage. Horses and cattle that are in good condition at the beginning of the winter will pass through the cold season without falling away in flesh condition or milk yields.

Pastures that have been stocked up to maximum capacity during the late summer and early fall should be given a chance to recover and make a vigorous fall growth to serve as a protection to the grass roots during winter.

The practice of pasturing clover and timothy meadows during the fall depends largely upon the fertility of the land and the amount of growth that the meadow has made. If a heavy growth has been made a reasonable amount of pasturing when the ground is dry will prove beneficial. The fresh green growth of clover and timothy furnishes a very acceptable addition to the food supply at this season.

On the average farm, however, it is very doubtful if the amount of pasturage furnished will pay the expense of maintaining interior fences. In some fields this condition may be overcome by erecting temporary fences, woven-wire or barb wire, strung on posts driven into the ground. Such fences can be shifted so that the stock can gather considerable food. If the grass has made a rank growth after haying, a limited amount of pasturing leaves the meadow in better condition for the succeeding season.

New seedlings of clover and timothy should be pastured lightly. Sheep are better suited for this purpose than horses and cattle, but care must be used to prevent them grazing the new meadows too closely. Stalk fields, from which the corn and stover have been removed, furnish considerable feed in the form of grasses, weeds and an occasional stalk and ear of corn. It is well to allow the stock to clean up this feed that would otherwise go to waste. In order to provide more good fall grazing it is a good plan to sow rye at the last working of the corn crop.

The practice of pasturing wheat and rye is open to criticism unless one has a large acreage and only a few head of stock. It is certainly preferable to seed a stalkfield in rye and keep the stock off from the wheat and rye crops that are to be harvested for grain. Rye sown in the corn field furnishes good grazing, a good cover crop and a good green manure and there is no danger of a crop of grain growing in the regular crop rotation being damaged.

Motor Truck Tips.

Value of the Winch.—One of the pieces of equipment that often makes loading easy is the winch.

For bulky products, particularly when they must be lifted some distance from the ground, the winch is a real lifesaver. Safes, baled hay and similar products will frequently call for a winch to handle them. In trucks fitted with a winch the part itself and the winch drive should be lubricated once a month. After carefully cleaning off any dirt on the case, remove the top plate and put in enough transmission oil to bring the lubricant in the case up to the level.

A Clean Clutch.—In motor truck service it is vitally important that the

clutch be kept in absolutely efficient order. This part has a very strenuous part to perform and needs careful attention. In the case of an oil disk clutch it should be drained once a month and then filled with kerosene. Then with the engine started the clutch pedal should be operated about a dozen times to insure the kerosene getting to all the surfaces. Next drain out the kerosene and refill the clutch with fresh cylinder oil.

Agriculture is Canada's premier industry.

Every thrashing crew should carry along two or more approved chemical fire extinguishers to combat incipient fires.

Cord or Fabric.

Economy is a savings bank into which men drop pennies and get dollars in return.

The economy of Partridge Tires is in their durability. By giving long service they save new tire costs, and their dependable wearing qualities eliminate the expense of repairs.

PARTRIDGE TIRES

Game as Their Name

Poultry

Nature has decreed that all fowls shall throw off their old plumage in the summer and put on a new coat of feathers in the fall. Those hatched early in the spring usually molt in the second summer following and every summer after that so long as they live. Those that are hatched later, those that are hatched in the fall, sometimes molt so late in the fall that they are not sufficiently protected from the cold weather and do not recover their strength and get on their new coats before it is too late to be profitable for egg production that season.

For example, a fowl of any medium-size variety hatched about April 1st, 1920, will molt usually in August or September, 1922. Those hatched later are likely to molt later unless, as sometimes happens, the owner undertakes to hasten the molting period.

Hens seldom lay while molting on account of the strain on the system involved in the production of new plumage. No effort should be made to induce them to lay because they need the rest from egg-production to keep themselves in good condition.

Some poultry keepers have practiced what is known as the forced molt. The method is to put the hens on free range and feed them very lightly for two weeks until they are a little below medium flesh or really thin in flesh. Then they are confined in houses and small yards and fed heavily on food that is more or less fattening; that is, food containing considerable corn or corn meal or both, and some beef scrap. The sudden fattening seems to loosen the feathers and cause them to fall out. Then of course new feathers come in more quickly because Nature does her best to protect the fowl. Special care is taken of these birds during the time they are growing their new plumage and a very wide variety of food is furnished so that they may have every opportunity to keep well and strong and to produce the new coat a little out of Nature's season.

Hogs

Shade and clean water during the summer months are essential to successful pork production. All kinds of hogs must have shade. Too much direct sunlight and heat is a frequent cause of hogs dying. During warm weather small pigs often blister on the backs and about the ears which causes, in some cases, severe infections and bad sores.

Expensive shelter is not necessary. Shade trees provide ample protection. Where no trees exist temporary shade may be provided by the covering of a frame with canvas, under which the hogs may go for protection. Some producers build individual hog houses with sides that may be lifted to provide an increased amount of shade during the summer months. This plan furnishes shade for hogs where only a few are kept.

Clean fresh water for drinking and wallow is equally as important as, or more important than, shade. The old-time wallow hole covered with scum, which was once also the drinking fountain, is no longer in high favor. Hogs must have water to drink, and if they cannot have fresh clean water in the trough or fountain, they will drink where they can find it, regardless of its condition. This fact has caused some to believe that hogs prefer nothing better, but they do and will demonstrate the fact when they are able to get fresh water from the well.

The clean wallow hole is also important. Hogs may use the muddy wallow if no other is available; but, again, if clean water is provided in a concrete wallow they will prefer it to the mud hole. An excavation six by eight feet, or larger, and about four feet deep, walled and floored with concrete and filled with water, will prove a profitable attraction to the hogs on hot days.

The Dairy

We need to get into our country the idea that work is the most inspiring thing in life. Any kind of work with milk is hard, steady and confining and many of us who have it to do under discouraging conditions find it easy to drop into the mood that makes it drudgery. When such a mood overtakes us, perhaps it is time to take stock of ourselves and our conditions. Are we submitting to unnecessary hard conditions? Would a little planning and changing, a judicious outlay of money, or maybe, just a little more tact and "jolly" contribute towards better, easier work? Are we holding the high ideal of "the very best" as our standard of achievement, rather than letting our dairy work be an unpleasant but necessary side-line of endeavor, both nervous and physically, in envying neighbors and friends who have less to do and more to do with? Then let us remember that the dignity and honor of work that is contributing a necessary thing to human welfare! In these days when work seems to have lost its dignity and the people who most loudly denounced the luxury and idleness of the rich are more eagerly grasping for the same luxury and idleness, let us dairywomen hold steadily the picture of a world that needs our service; of little children who cannot grow into strong citizens without pure milk; of communities that must degenerate without dairy foods and so do our honest best.

Wintering Bees in the Cellar vs. Outside.

Whether to winter in the cellar or outside is a question that every beekeeper has to settle. Where the winter is long and steadily cold, the cellar is usually more satisfactory, but outside wintering succeeds in some moderately cold places if proper precautions are taken. At the Central Experimental Farm, Ottawa, the two methods have been compared during the last five years. Wintering outside has been done in an apiary protected from wind by a board fence 8 feet high, the hives placed in cases made to hold four colonies each with packing material around the sides, beneath, and above the hives. The cellar was a low dry one under the Administration Building, which was heated all winter. The results have been very close, but outside wintering has brought the colonies forward slightly earlier in the spring.

In the wide belt where both cellar and outside wintering are about equally satisfactory, the deciding factor appears to be convenience. If the beekeeper has a well insulated and dry cellar, by using it he will save the expense of constructing wintering cases, and also a wind-break, if this is not present. For a few colonies in a cold region, a boarded-in part of the dwelling house basement makes a good cellar for the bees, and it is an advantage if the basement contains a furnace. Such a cellar should have a steady temperature somewhere between 42 deg. and 50 deg. F. In outside wintering, it is very important to protect the apiary from wind. Outside wintering has the advantage that

THE SUNDAY SCHOOL

SEPTEMBER 5TH.

The Building of the Temple, I Kings 5: 1-8; 66. Golden Text, Isa. 56: 7.

Preparation for the Building. Chapter 5. Hiram, king of Tyre, with whom David had had friendly relations, sent messengers to congratulate Solomon upon his elevation to the throne, and to renew those relations. Solomon sent an embassy in return to Tyre seeking the king's help in procuring timber out of the Lebanon forests for his building operations. Palestine itself had little or no large timber. The Phoenician people of Tyre and Sidon cut the big cedars of Lebanon and dragged them down to the sea for their shipbuilding and for their houses. They became expert at that kind of work, and Solomon spoke truly when he said, "There is not among us any that can skill to hew timber like unto the Zidonians." So now an arrangement was made between the two kings that Hiram's men should cut the timber, bring it down to the sea, raft it along the shore to a place near Jerusalem, and there deliver it to the men of Solomon, who would draw it up through the mountain passes to the city. For this labor Solomon resorted to one of the practices common in ancient kingdoms, that of forcing large numbers of men to give a portion of their time, in this case one month out of three, without remuneration. So timber was brought from the mountains, and great stones from the quarries were hewn out and fashioned for the building.

Date and Manner of the Building. Chapters 6 and 7. The work of the beginning of Solomon's great work is given as four hundred and eighty years after the coming out of Egypt, and the second month of the fourth year of his reign. The most careful reckoning of modern scholars places it at about 966 B.C.

The temple was a massive stone building about one hundred feet in length, east and west, and about thirty-three feet wide, north and south. The front was toward the east, where there was an entrance hall or porch. All about the walls on the other three sides were priests' chambers, three storeys high, above which were windows of lattice-work. The interior was divided into two rooms, the larger next to the entrance, and the smaller, known as the oracle, or most holy place at the western end. The interior plan was thus like the tent temple of the wilderness. The

bees may be left without attention throughout the winter, whereas in many cellars in the milder parts of Canada, the ventilation has to be watched and controlled. Outside wintering has been very successful at the Experimental Farm at Kentville, N.S., but at the Experimental Farm at Brandon, Man., the winter has been found too severe for the best results. For successful wintering, more important than the method is early and careful preparation for winter. For example, one cannot expect cellar wintering to be successful if the bees are left outside until zero weather, or if they are brought out very early in the spring. Nor can one expect good results in outside wintering if packing is delayed until cold weather. Neither method will succeed if the colonies do not contain plenty of bees, especially young bees, and, above all, abundance of wholesome stores, preferably clover honey, or syrup made from white granulated sugar, stored in the combs before cold weather.

Mice, if they get into the hives during the winter, will ruin the colonies in a very short while.

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building operations lasted more than seven years. (6: 37-38).

Other great enterprises of a similar nature occupied Solomon's later years. He built palaces and city walls in Jerusalem, and fortresses in other parts of the country, and the burden of the cost and the forced labor was very heavy upon the people, and became one of the chief causes of discontent which led to the disruption of the kingdom after his death.

The Dedication. Chapter 8. In the dedication ceremonies there were three principal acts: (1) The removal of the ark to its new resting place in the inner chamber, or most holy place, of the temple; (2) the speeches and dedicatory prayer of Solomon; and (3) the offering of sacrifice and celebration of the great feast of tabernacles, the autumn festival.

1-11. To Bring up the Ark. The ark was still an object of reverence, as it had been from the time of Moses. It represented to the people of Israel God's dwelling in their midst, and His covenant with their nation. David had brought it to Jerusalem, and had kept it in a tent in Zion, that is the new town which he had built on the site of the old Jebusite fort, on "the lower southern spur of the eastern hill of Jerusalem." The name Zion was afterward given to the entire hill, including the temple area on the north, and was ultimately applied to the entire city. From all parts of the country the elders, heads of the great families and clans, came up to be present on this solemn occasion.

The month Ethanim, the seventh month was, in the old Jewish calendar, which is still used by the Jews, the first month, and began in September. The cherubim, angelic figures with outspread wings, stood one on either side of the ark, the right wing of one and the left wing of the other meeting over the ark. In the ark, which was simply a box with a closed lid, were the stone tablets upon which were engraved the ancient laws (Ex. 25: 21; 40: 20; Deut. 10: 2, 5; compare Heb. 9: 4). The story of the covenant here referred to is told in Exodus 24.

The cloud, which filled the house, is the ancient symbol of the divine presence. Compare Exod. 40: 34-38; Ezek. 10: 3-4. It is in the thick darkness, or pavilion, of the cloud that he dwells, and the lightning are His flaming darts, and the thunder is His voice (Psalm 18: 11; 97: 2). But this God of mystery, whose habitation is shrouded in darkness, "whom no man hath seen or can see," will nevertheless condescend to dwell with men drawing near to them and revealing Himself in His holy temple.

Financial Notes

Ottawa—It is rumored here that a very heavy investment of British capital is likely to be put into the development of the Canadian pulp and paper industry.

Winnipeg—A ready market has been found for the recent offering of \$500,000 of the City of Winnipeg being made by Canadian bond houses. The present is regarded as about the quietest period of the year, but notwithstanding this, practically the entire issue has been placed.

Nelson, B.C.—By a big margin the largest ore total received at the Trail smelter for a ten-day period this year, the receipts for the closing ten days of July touched the record mark with 12,863 tons of smelter feed, of which 194 tons was concentrates. This brings the total receipts for the year to date at Trail up to 181,157 tons of smelter feed, 3,934 tons of this total being concentrates and 177,223 tons crude ore. The Caledonia mine, at Adamant, joins the shipping list with a small trial shipment.

Guelph—A new industry is shortly to be established here. This will be known as the Guarantee Battery Corporation of Canada and will be capitalized at \$400,000. The company will operate under a Dominion charter and will be managed solely by Canadians. They will manufacture chiefly the kind of batteries made by the Guarantee Battery Corporation of Denver, and will employ a large number of workmen. Arrangements have been completed for the site, and work will commence shortly upon the plant.

St. John's, Nfld.—The Newfoundland Ritz Hotel Co. has been incorporated here for the purpose of erecting a million dollar hotel in the famous Rita chain.

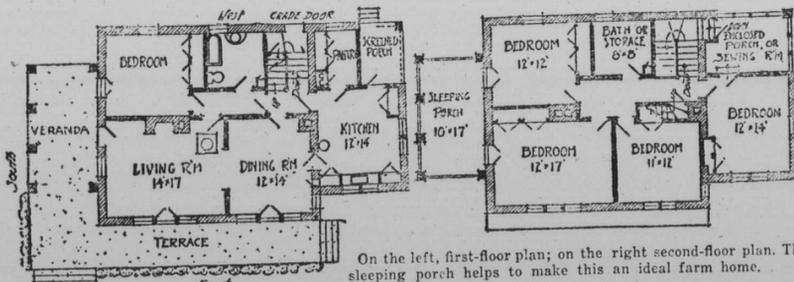
Reviving Old Meadows.

To renovate old meadows, harvest the hay crop early. Just as soon as the field is clear, disc, harrow or cultivate the surface sufficient to break some of the sod surface so that seed will come in contact with the soil.

Sow a mixture of the following: Timothy, 6 lbs., Red Top, 6 lbs., Alsike, 6 lbs., per acre. When the seed has been sown, run a spike-tooth harrow over the surface to cover the seed. Next apply a top dressing of barnyard manure at the rate of 12 tons per acre. This work should be done immediately after the seed is sown. The earlier the seed is sown the stronger the growth of plants will be to withstand the winter. Manure applied early will force the growth of the young plants, revive the parts of the old meadow that is broken and will be well incorporated in the soil before winter sets in. Low pasture lands can be revived in the same way and seeded early in August.

Over \$75,000 is being spent in two new amusement devices alone, at the Canadian National Exhibition this year.

A Well-Planned Farmhouse



On the left, first-floor plan; on the right second-floor plan. The sleeping porch helps to make this an ideal farm home.

The designer of this well-arranged country home gives the following description: "The plans explain themselves, mostly. In Ontario our winter storms and high winds are westerly; so I have placed living rooms on the east side of the house, and only enough windows on the west for light and ventilation. The kitchen I have set where the housewife can see the street—a great comfort to the woman in a lonely neighborhood; and for this reason the sink where one does so much of the daily work is placed under the front windows. The extra piping required is more than made up for by the comfort of the worker. The kitchen is well supplied with cupboards. In the pantry is a cooling cupboard with wire shelves and screened openings at bottom and top. "The ground-floor bedroom is planned for the aged one, or the mother with little ones to care for. No tired

farm woman should be obliged to run up and down stairs to care for a sick baby or an invalid. The closets are similar to some I saw in a city flat. Each one is a sort of built-in wardrobe about two feet deep, with two shelves at the top and a drawer one foot deep at the bottom. Narrow doors were placed across the front so that the whole interior could be opened up when necessary. "The grade entrance provides a means by which the men may enter, going directly to the bathroom, or upstairs without tracking up the kitchen floor. "A sleeping porch is a great boon in hot weather. At least a balcony should be provided where bedding may be aired and sunned, and bedroom rugs shaken. "I would build this house of light yellow brick, though a farmhouse looks well clapboarded and painted white. I would finish the woodwork in ivory paint, except in the kitchen, poses."

where pale sea-green is the best color I have ever tried. A refrigerator might be built in between the pantry and screened porch. Some would like a garbage chute in kitchen, but where parings and waste vegetables must be fed to stock, it is better to provide a receptacle for the edible portions, and burn the rest. A chute for soiled clothing could be provided in the upper hall. "This house could be built by egress; the kitchen part and the big two-storey verandah could be left off at first. In that case, the dining room would serve as kitchen; a light, temporary back verandah could be built. The terrace would answer as a makeshift front verandah. Later the temporary verandah could be moved away and used as a shed, or some such thing. "There is a low attic, used for storage, over the main building; small windows in either gable give plenty of light and air for all practical purposes."