Seasonal reminders for July-August

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DURING July, keep an eye on the crop and pasture paddocks and note any new weeds which may appear. Farms may often be kept free of noxious weeds by hand pulling or hoeing in the early stages before the plants have a chance to assume serious proportions. Any suspected new plants should be sent to the Government Botanist for identification.

Wet weather often provides opportunities for carrying out odd jobs around the homestead and sheds, such as building renovations and the repair and adjustment of machinery and other equipment. Now is a good time to sort out secondhand bags, to carry out a few repairs where needed and tie up super sacks in bundles of two dozen ready for refilling.

The fallowing programme should be pushed ahead, and early fallow may require working to destroy weeds or restore tilth.

See that the hay-cutting machinery is in good order ready for a trouble-free run when it is needed. Plan your grain and fodder requirements. Select and shut up paddocks for meadow hay.

Prepare yards, sheds and gear for the coming shearing. Order wool packs, branding fluid, raddle, etc.

Class and cull the flock before shearing to make drafting and wool-classing easier during the rush period. Book ram requirements.

August sees the commencement of shearing in early districts. Brand shorn sheep with registered wool brand and recommended fluid. Clean up the shed, store machinery and list any new parts required.

Most pastures can be grazed heavily at this time of the year, but frequent changes are desirable. Give the best grazing to ewes with lambs. Market early fat lambs.
Tobacco Notes for July and August

By T. G. HANEY, B.Sc. Agric., Acting Officer in Charge Tobacco Industry

GRADING by this time should be almost complete, since the first consignment of leaf for Fremantle should be on approximately July 10. The more leaf which can be sent away during July, the better it will be for all concerned.

It is advisable for any new grower who has not been to a tobacco auction to visit the sale floor. This enables a comparison of grading and setting up of other crops, and will bring to light any possible defects in the showing of individual grower’s crops. Buyers are willing, provided they are not too busy, to answer questions and give information which may be of value.

Seedbeds.—Preparation of tobacco seedbeds should commence in July. The site should be on a well-drained soil, preferably with a gentle slope to the east in order to obtain the maximum amount of early morning sunlight, and some protection on the south and west against cold winds. The ground should be kept free from weeds for as long as possible before the sowing of seed and the area required should include a bare strip five to six yards all around the seedbed as a protection against insect pests. Soil requirements are good drainage, on a light loam or gravelly soil. Heavy soils are not recommended as they tend to form a hard crust on the surface, thus preventing penetration of the small rootlets.

In constructing the seedbed frames, remember that they should be airtight. For this reason, sash tops are not recommended, since an airtight seal cannot be obtained with a wood to wood join. Roller tops give a much better seal. The use of “Windolite” causes the seedbed surface to dry out too quickly under direct rays of the sun.

For land to be planted in mid-October, seed should be sown at the end of July, with subsequent sowings at weekly intervals. Seed sown towards the end of August will take less time to germinate and grow to the required size due to higher temperatures.

After the seedbed is in good tilth and level, the frames can be placed on the surface. One pound of tobacco fertiliser per square yard is worked in to a depth of three inches. Seed is then sown at a rate of 1 ounce per 100 square yards of seedbed area. In a well-sown seedbed, there should be 750 to 1,000 plants per square yard. It is suggested that a covering of coarse sand be given after sowing of seed. This forms a mulch on the surface, minimising excessive drying out of the soil and also preventing washing of the seed while watering. The surface soil must not be allowed to dry out during the germination period. This is the most common cause of failure to germinate.

After sowing, the beds should be kept open as much as possible, with water applied to keep them moist. Lack of aeration of the beds creates conditions favourable to the development of fungi which cause “damping off.”

“Damping off” can be controlled to a certain degree by the use of “Cheshunt Mixture”. It is advisable to use the mixture before sowing and at weekly intervals after germination.
Lack of aeration of seedbeds also causes the development of a green scum on the surface. The use of Bordeaux mixture will destroy the scum without injury to tobacco seedlings.

Bordeaux mixture is made in the following manner:

- Dissolve 1 1/2 lb. copper sulphate in 2 gals. of water.
- Mix 2 lb. hydrated lime in 2 gals. water.
- Fill a 25 gallon drum three-quarter full, add lime, and then the copper, stirring vigorously. Add water to 25 gals. and apply at the rate of 25 gals./100 sq. yds. The first application is immediately after the plants germinate and the second, 10 days later.

Always remember that prevention is better than cure. Therefore—

1. Select the correct seedbed site.
2. Made certain the seedbed surface is level.
3. Make seedbed frames as airtight as possible for the use of benzol at a later stage.
4. Give the seedbeds ample ventilation. They, like you, need plenty of fresh air.

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**USE CARE WHEN INOCULATING**

**CONTRIBUTED BY THE VETERINARY BRANCH**

**RECENTLY,** mortalities from tetanus involving the loss of a large number of sheep have occurred as a sequel to the inoculation of flocks with entero-toxaemia vaccine and other biological products.

Although mortalities may sometimes result from the reactivation of spores lying dormant in the tissues at the site of injection they are usually associated with the use of vaccine which has become contaminated with tetanus spores at the time of inoculation.

When a hypodermic syringe is used, it is necessary to transfer the vaccine from the bottle in which it is supplied to a container such as a cup, or small basin, from which the syringe is re-charged as required. Unless this container is kept covered it is likely to become polluted with dust containing tetanus spores. The risk is greatest when inoculation is carried out in dusty yards and it may be minimised by using the shearing shed for the operation.

In addition, the syringe and needles should be sterilised by boiling for five minutes before use, and by keeping needles which are required as replacements in a jar of methylated spirits. Losses from tetanus may be prevented to a large extent by the use of an automatic vaccinator which may be plugged into the bottle in which the vaccine is supplied thus eliminating all risk of contamination by dust.

This instrument, together with the rubber tubing connecting it with the vaccine bottle, must however be sterilised by boiling on all occasions before being used.
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**TIMELY HINTS ON CHICK BROODING**

By L. J. GAFFNEY, B.Sc. Agric., Poultry Adviser

**AFTER** thoroughly cleaning the brooder house, the floor should be disinfected and covered with three to four inches of clean dry saw-dust. (See March-April issue of the Journal.) The brooders should be in operation one or two days prior to receiving the chickens to ensure temperature stability. For the first three weeks the temperature should be 95° F. and then reduced gradually to 85° F. at the end of the fifth week. During the final two or three days in the brooder house the heat should be cut off completely.

During the brooding period the litter under and around the brooder should be frequently examined for any sign of dampness. After the first 10 days the litter should be stirred to floor level daily and a little slaked lime incorporated if dampness is suspected.

For the first three days the chickens should be confined to the brooder by placing a ring of flat iron one foot high around the brooder, care being taken that sufficient space is allowed between the brooder and the ring to avoid over heating the chickens. As different makes of brooders vary in their heat output, the attendant must exercise his own judgment in determining the actual space allowed.

At 12 to 14 days the chickens should be allowed outside the brooder house. Care must be taken not to expose them to cold winds. A good scheme is to fence off a small portion of the yard with sheets of corrugated iron for the first few days. Green feed, such as rape, grown in the brooder yard, helps to keep the chickens active, in addition to supplying essential vitamins and minerals.

During the chickens’ early life the weather conditions largely decide the management programme. Especially during the first six weeks they should not be exposed to severe changes in temperature and wet conditions should be avoided.

At five to six weeks of age, depending on the weather, the birds are transferred to rearing houses where they should be confined for a few days. Warm nights usually accompany wet weather and these conditions are suitable for the transfer of chickens to the rearing pens. On being let out, the running area should at first be limited and gradually increased as the chickens become accustomed to their new quarters.

The rearing house should be provided with a perching platform and the floor covered with dry sawdust to a depth of three inches. Teaching the chickens to perch at an early age is an important phase in their rearing. This is facilitated by the use of the perching platform which is constructed of slats 3 in. wide and 1 in. deep with a space of 1 in. between each slat. The platform is built at the rear of the shed, the slats being supported so that they are 6 in. above the litter. Provision must be made to see that the chickens cannot get under the platform and that they cannot crowd on to the cold wall of the shed. A board 6 in. wide and nailed to the inside of the studs will achieve this latter requirement. It is usually necessary at first to
train the chickens to perch on the platform but after driving them on to it for about five consecutive evenings at dusk they will camp on the platform of their own accord.

The maximum number of chickens allowed to congregate in any one group should be 150, but preferably not more than 100. After three weeks on the platform the chickens will migrate to permanent perches which are installed 1 ft. above the platform. All chickens should be perching when they are nine weeks of age and this is one of the most important management practices in the successful raising of chickens.

**Feeding Breeding Hens.**—The breeding hens' diet must contain adequate Riboflavine if good hatchability from their eggs is expected. The commercial powder “Ribon” or buttermilk powder are excellent sources of this vitamin.

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**IN THE ORCHARDS**

By F. MELVILLE, B.Sc. Agric., Acting Assistant Superintendent of Horticulture

THE pruning of fruit trees and vines may be commenced as soon as the trees or vines have become dormant but may be carried out any time before the break of dormancy in the spring. Almonds and early peaches will require pruning before mid-July as blossoming commences at this time. Other stone fruits and pome fruits are pruned during August and September. In districts where varieties of peaches and nectarines tend to shed their flower buds, pruning of laterals can be delayed until flowering is completed. A leaflet on the pruning of vines is available from the Perth office.

Fruit trees can be grafted either while dormant or just as they are breaking dormancy. If early grafting is desired a cleft method should be used. The various bark grafts can only be successfully performed after the sap has started to flow and the bark lifts easily. It is essential to use completely dormant scions and they should, therefore, be selected during the dormant period and stored in a cool moist place until required. It is usual to completely bury the scions horizontally in a moist but not wet situation.

**NEW PLANTINGS**

Young fruit trees should be planted on well prepared sites properly levelled and free from old tree stumps and roots, and preferably on land which has carried a cover crop the previous season. Up to 2 lb. of a mixed fertiliser should be thoroughly incorporated with the soil in each hole before planting; care must be taken to ensure that the roots do not come into direct contact with fertilisers used.

Before planting, prepare the tree by shortening back sound roots with a clean cut and removing all damaged ones. Plant to a depth not greater than the tree was growing in the nursery and firm the soil well around the roots. Reduce the top, in the case of a whip, to 15 to 18 inches while for a formed tree select if possible three well-spaced branches and shorten to six to eight inches. This will apply to citrus as well as deciduous trees.
Plant deciduous trees in time to enable the rooting system to become established before the top growth shoots. Citrus planting should be delayed until the danger of heavy frosts is past. Provided moisture supplies are adequate planting may be left as late as September.

**DISEASE AND PEST CONTROL**

*Anthracnose of Vines.*—At pruning remove and burn canes showing lesions. Spray during the dormant period with a mixture of 10 to 15 lb. of bluestone in 40 gallons of water.

*Dormant Sprays for Deciduous Trees.*—A spray of one part of red spraying oil to 15 parts of water should be applied after pruning for the control of San Jose’ Scale, Bryobia Mite and Mussel Scale. Alternatively lime sulphur at a concentration of one part in seven of water may be used as a late dormant spray.

*Shothole of Stone Fruits.*—Stone fruits including almonds should be sprayed thoroughly at the “early pink bud” stage with 6:4:40 Bordeaux mixture. If an additional spray is required use 1:100 lime sulphur except for apricots for which 3:4:50 Bordeaux is necessary.

*Peach Leaf Curl.*—The “early pink bud” spray of 6:4:40 used for Shothole will deal with this disease.

*Fruit Fly.*—Periodic baiting as the weather permits during the winter months is beneficial in reducing the fly population for the ensuing spring and summer. Use a mixture of—

- 1 oz. sodium fluosilicate,
- 2½ lb. white sugar,
- 4 gallons water,

or the proprietary mixture Lurotox.

For advice on orchard problems the district Horticultural Instructor is available to assist.

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**FOR THE BEEKEEPER**

*July* is regarded by many beekeepers as one of their quiet months of the year, but in actual fact the foundation of the season’s work is laid during this time. All maintenance must be finished by the end of July if full use is to be made of the fruit blossom and other short but good flows in spring, when the bees start to build up from the winter cluster.

Make sure that the honey house, equipment, and truck are in a good state of repair. In particular, replace anything that is liable to break down during the honey flow.

All frames should be repaired or replaced, and spare frames fitted with new wire and new foundation comb. Hives should be repaired and painted.

Watch the stores in the hive. If they are short, lay an empty drawn comb flat on the top bars of the frames in the super, and pour honey water (four parts of honey to one of water) into the cells and replace the frame. Very liquid honey can be used instead. This will stimulate the queen to lay and build up the hive for the early flows.

If any hive appears weak, and the queen and her brood pattern appear healthy, boost the colony by shaking some bees off frames from some of the strong colonies on to the ground just in front of the entrance to the weak colony.

As the fine days appear, the hives should be examined and all colonies with queens that appear old and failing should be marked for requeening later.

In August, queen raising should be started. The earlier fruit trees and Cape-weed are excellent for queen raising, and in starting the bees building up, ready for swarming.
FALLOWING IN RELATION TO SOIL CONSERVATION
By OFFICERS OF THE SOIL CONSERVATION SERVICE

With the time for falling at hand we should give some thought to this farm practice, and consider its relationship to soil conservation and the liability of soils to erosion by wind and water. Fallowing is a practice of preparing land for crops some time ahead of the planting date. It is done for convenience to spread the year's operations, and also to improve crop yields. It causes the soil to be left more or less bare for several months, yet for soil conservation, surface cover of living or dead plant materials is constantly advocated. How can convenience and yields be fitted in with soil conservation?

Many soils of medium and heavy texture on flat or gently sloping areas can be safely fallowed without fear of serious erosion. But even in such cases excessive working of the soil, especially when dry, should be avoided. Cultivation when the soil has the right moisture content can improve the soil structure, but if done with the soil too wet or too dry, cultivation will tend to destroy the structure and so increase the liability to erosion.

The value of cultivation has often been over-stressed; the soil should be cultivated as little as possible consistent with the killing of weeds and the preparation of a seed bed. The farmer should not aim at the maintenance of any fine soil mulch, which has wrongly been credited with the virtue of retaining soil moisture; rather should he strive to keep the surface soil in a cloddy condition which will allow maximum absorption of water.

Fallowing of sandy soils should aim to leave them rough and ridged, and in some cases grazing crops of oats or rye may be grown, and fallowing done later in the season after partial grazing. A rough surface, with some grass or straw trash, reduces wind velocity at ground level, and so too, the likelihood of wind erosion.

Where the rainfall is sufficient to grow subterranean clover the soils on which it grows will, in most cases, later produce good cereal crops without a period of bare fallow. Many farmers have reduced the area fallowed yearly to the minimum which enables them to do their seeding in time the following season. They consider that any reduction in the yield of the cereal crop is made up for by the extra period of grazing from the area concerned and by the lessening of the risk of soil erosion.

Fallowing of Drainage Depressions.
When preparing to fallow a paddock, a farmer should first consider what happens when there is sufficient rain to cause water to run off the land, and where this run-off water will concentrate and flow in the paddock, whether it comes from the paddock itself or from higher slopes, roads, or other areas which may shed water freely.

In many paddocks where water erosion has occurred the most obvious sign of erosion is usually a gully situated in the main depression through the paddock. This gully has probably started when the surface soil in the depression was in a cultivated condition and heavy rain has caused water to flow down the depression. Once a gully is formed in such a situation it usually becomes larger and encroaches further up the slope with each flow of water; and in some cases this encroachment is caused by seepage.
alone. It is then necessary to go round the gully, and the paddock is divided for all farm operations involving the use of machinery or vehicles. The reclamation of such a gully is difficult, since besides the filling of the gully it is usually necessary to construct expensive earth works to protect the filled-in gully while it becomes re-grassed and stabilised.

Bearing these facts in mind the farmer who looks ahead will avoid ploughing any area where he knows water is likely to flow in any quantity. This means that he will have a well-grassed depression instead of a possible steep-sided gully. This strip will have to be avoided when cultivating, but can be crossed for any other operation such as top dressing or harvesting and possibly could be seeded with the rest of the paddock. Also, if it becomes necessary later to plan and construct a system of contour banks to control erosion on the slopes of the paddock, then the grassed depression is ready as the best and safest area to take the discharge from the banks. This would eliminate what is usually the greatest difficulty in planning a contour bank system—finding a safe waterway.

Earth-Moving Work for Soil Conservation Practices.

In a soil conservation programme of reclaiming eroded areas and providing protection for soils on sloping lands, it is often necessary to do some earth-moving work such as gully filling and construction of contour banks, pasture furrows, and similar measures.

Any earth-moving work is most economical and satisfactory if done when the soil is in the right moisture condition. Soil conditions are generally suitable for most of the winter months but the fallowing period is the most likely time for farmers to fit this work into their farm activities. This will apply especially to farmers who have reduced their area of fallow in accordance with a soil conservation programme.

Farmers who have a system of contour banks planned and surveyed, but who are unable to do the job of bank construction in the winter months, should fallow a strip of 15 to 20 feet wide along the lines surveyed for the banks. This will ensure that the ground will not set too hard for the work to be done in the period between shearing and harvest, or even after harvest.

Greater agricultural production can be achieved without damage to our soils if suitable soil conservation practices are adopted. Soil conservation aims are to prevent erosion and maintain or improve soil productivity. Our goal should be to achieve production increase through greater yields per acre as well as by increased acreages. Advice from the Soil Conservation Service is available free to farmers and landholders, on matters relating to soil conservation and soil erosion control.

In some cases Service officers recommend the adoption of contour working, or the construction of contour pasture furrows, or systems of contour banks. These all require the surveying of lines on the land with suitable instruments, and in some cases farmers can undertake their own layouts. Surveying may also be done by Service officers and a charge is now made at the rate of £1 per hour for the time spent on the property while the surveying is in progress. This charge applies where one officer is involved and the farmers provide assistance. For a team of two officers to carry out surveys the charge is £1 10s.

A REMINDER

HAVE you registered your orchard? One fruit tree or a single vine is an orchard for the purposes of the Plant Diseases Act and must be registered accordingly. The registration fee for less than one acre of trees or vines is 1s. Apply Department of Agriculture, Perth.
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