Here's the answer
TOBACCO GROWING

What are the main conditions suitable for growing tobacco in Western Australia?

All the tobacco produced in Western Australia at the present time is grown in the lower South-West of the State, in areas around Manjimup, Northcliffe and Karridale.

Requirements for the growing of tobacco are firstly, a suitable climate. It must be remembered that tobacco is one of the few crops grown in which the actual leaves are harvested as the commercial product. Therefore, strict attention must be paid to this factor.

Tobacco needs a humid atmosphere in which to develop the various qualities such as aroma and texture which make a leaf of desirable smoking quality. Another important climatic factor is that, once planted in the field the growth of the plant must be rapid and without check.

Requirements in this case are a moderately high temperature and sufficient moisture. Under irrigation, one inch of water is required each week. In the South-West, the crops survive on natural seepage moisture.

After climate, soil is the important factor. A light sandy loam soil is required—pure sands and clays are, in general, unsuitable. The clay subsoil should not be closer than nine inches to the surface. The most desirable depth is about 15 inches.

Many inquiries are received from people who wish to grow plants for their own use. Besides being inadvisable from the point of smoking quality, this practice is illegal. Tobacco is an excisable commodity and must be grown under license and marketed through a registered broker.

CROSS-POLLINATION OF FRUIT TREES

Do fruit trees other than almonds need cross-pollination?

Other fruit trees which need cross-pollination for the successful setting of crops are apples, plums, cherries and some pears. Most other fruits will set satisfactory crops without the aid of cross-fertilisation.

Generally speaking any two varieties of the one fruit flowering at the same time will act as pollinators one for the other. In selecting varieties of the above fruits for planting therefore provision must be made for pollinators.

In the case of Japanese plums some varieties will set fruit without cross-pollination, but crops are better and surer if cross-pollination is provided.
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It is not essential to plant trees of the pollinator variety by grafting. It is possible to introduce a small portion of the pollinator variety into the existing tree or alternatively flowers of the pollinator variety may be placed in the tree at blossoming time.

**FRUIT TREES FOR THE GREAT SOUTHERN**

What varieties of fruit trees do you recommend for planting as a household orchard in the Great Southern farming areas?

This country is most suited to stone fruits and in some situations to apples and pears. Citrus fruits will not prove very successful in most parts because the winter is too cold and summer irrigation is not usually possible.

Among stone fruits the following are considered good varieties to plant.

**Apricots**
- Newcastle early (Early).
- Royal (Mid-season).

**Peaches**
- Dunhelm or Edward VII (Early).
- Ruby Red (Early Mid-season).
- Blackburn or Elberta (Late).

**Plums**
- Santa Rosa (Early).
- Wickson (Mid-season).
- Satsuma (Late).

Apples will grow moderately well provided they are planted on a friable type of soil with a clay subsoil. Pears may be planted in a wetter situation.

A selection of apple varieties could be made from the following.

**Gravenstein**—(Early).
**Dunns**—(Cooking variety).
**Cleopatra**—(Early Mid-season).
**Jonathan**—(Early Mid-season).
**Delicious**—(Early Mid-season).
**Golden Delicious**—(Mid-season).
**Granny Smith**—(Late Mid-season).

Suitable pears are:
- **Bartlett.**
- **Packhams Triumph.**

Where conditions are suitable a selected planting could be made from the following citrus fruits.

**Oranges**
- Washington Navel.
- Valencia.

**Lemons**
- Eureka.

**Mandarins**
- Emperor or Imperial.

Grapes prove successful for home growing throughout most of the Great Southern districts and the following could be used as a basis of selection.

**Early Madeline**—(Early).
**Muscatei—Alexandria or Gordon**—(Early).
**Waltham Cross**—(Early).
**Wortley Hall**—(Late).
**Red Prince**—(Late).

**WEBWORM**

I am told that it is risky to grow wheat in the Clackline district unless the ground has been worked up first and left for 10 to 14 days before sowing with the wheat crop. Old residents told me that if the ground is sown immediately after working there is a chance that much of the crop will be eaten by grubs. I have grown wheat for a number of years in the North-Eastern wheatbelt without encountering this trouble. Would these “grubs” be the larvae of the webworm moth described in a recent issue of the Journal.

It is probable that the grubs are the caterpillars of the webworm moth and ploughed in wheat crops are liable to webworm injury in almost any part of the wheatbelt, the amount of damage sustained depending upon seasonal conditions.

Investigations recently carried out have shown that early ploughed in crops are less liable to damage than those ploughed in later in the season and that where it is possible to plough and then delay planting for a fortnight or three weeks, the likelihood of damage from the caterpillars is further reduced.
STORING COMBS

I have a number of drawn combs which the bees will not require during the winter, but which may be urgently needed next spring. I fear that if I store them without some protection the wax moths will ruin them. I understand that certain chemicals may be obtained which act as fumigants and I would like to know the names of these chemicals and where they could be obtained.

There are several methods by which combs may be stored with reasonable safety and a short description of the methods of fumigation is given below:

1. Para-di-chlor-benzene Crystals: An empty super is placed on the ground and about a ½ lb. of PDCB crystals is placed inside it. The other supers filled with the drawn combs are then stacked above it. About a thimbleful of crystals should be sprinkled over the top bars of each super. When all the supers are stacked the cracks between them should be sealed with gummed paper to make the stack as gas-tight as possible, and to prevent re-introduction of wax moths from outside.

2. Carbon-tetra-chloride, and Carbon-bisulphide: These are liquids giving off a poisonous gas heavier than air. The supers should be stacked as before and sealed with gummed paper to make the stack as gas-tight as possible. A saucerful of the liquid is then placed on top of the stack and a lid fitted down and gummed with paper. The gas, being heavier than air, then percolates down through the stack.

Remember that carbon-bisulphide is a poisonous explosive substance, and therefore should be treated with every respect. Carbon-tetra-chloride is non-explosive, and is the one recommended.
If it is intended to store the combs for a lengthy period it is wisest to re-fumigate four or five weeks later, to ensure that all the moths are accounted for.

Wax moths prefer darkness, and if storing the combs for only a short period it will be found that if the supers are left outside exposed to the sunlight and air the moths will give little trouble. The boxes are then stacked vertically on their ends to give a maximum of exposure.

If you are planning to keep bees commercially, it may be worth your while to construct a proper gas-tight chamber using any of the substances mentioned above as a fumigant. They are obtainable from any of the large wholesale druggists in Perth.

**HINGING A SWARM**

There are a number of bees in hollow trees in this area and swarms are fairly common. What is the best way to capture and hive a swarm?

Methods will vary somewhat according to the spot where the swarm is situated. Where the bees are considerable enough to settle on a branch about four feet from the ground it is a simple matter. Just shake them into a suitable box about the size of a butter-box and convey them immediately to a prepared hive in the apiary.

The hive should preferably contain some frames of brood taken from another hive, together with some drawn combs or foundation comb. Place a board or a half-sheet of asbestos sloping up to the hive entrance, shake the bees on to this from the box and coax them to run up into the hive by a few gentle puffs of smoke. As soon as they realise that here is a new home containing brood they will generally move in without any hesitation. By this method it is usually possible to see the queen and make sure that she goes into the hive.

Where a swarm is well-situated one can even short-circuit this method by shaking the swarm directly into a prepared hive and putting the hive in position in the apiary. In this case it is advisable to remove the eight centre frames from inside the hive, having one frame against each of the side walls.

If the swarm settles on a high branch a butter-box can be attached to a long pole and held under the branch which is then shaken by means of another pole with a hook on the end.

Where the swarm cannot be shaken down—for instance, if it is situated in a dense, thorny bush—try inverting the box over the position and placing a wide board leading up into the box. Smoke is used to drive the bees upward into the box.

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**FARMERS**

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