

Read the following text and make notes.

## COFFEE AND ITS PROCESSING

The coffee plant, an evergreen shrub or small tree of African origin, begins to produce fruit 3 or 4 years after being planted. The fruit is hand-gathered when it is fully ripe and a reddish purple in colour. The ripened fruits of the coffee shrubs are processed where they are produced to separate the coffee seeds from their covering and from the pulp. Two different techniques are in use: a wet process and a dry process.

*The wet process* First the fresh fruit is pulped by a pulping machine. Some pulp still clings to the coffee, however, and this residue is removed by fermentation in tanks. The few remaining traces of pulp are then removed by washing. The coffee seeds are then dried to a moisture content of about 12 per cent either by exposure to the sun or by hot-air driers. If dried in the sun, they must be turned by hand several times a day for even drying.

*The dry process* In the dry process the fruits are immediately placed to dry either in the sun or in hot-air driers. Considerably more time and equipment is needed for drying than in the wet process. When the fruits have been dried to a water content of about 12 per cent the seeds are mechanically freed from their coverings.

The characteristic aroma and taste of coffee only appear later and are developed by the high temperatures to which they are subjected during the course of the process known as roasting. Temperatures are raised progressively to about 220-230°C. This releases steam, carbon dioxide, carbon monoxide and other volatiles from the beans, resulting in a loss of weight of between 14 and 23 per cent. Internal pressure of gas expands the volume of the coffee seeds from 30 to 100 per cent. The seeds become rich brown in colour; their texture becomes porous and crumbly under pressure. But the most important phenomenon of roasting is the appearance of the characteristic aroma of coffee, which arises from very complex chemical transformations within the beans. The coffee, on leaving the industrial roasters, is rapidly cooled in a vat where it is stirred and subjected to cold air propelled by a blower. Good quality coffees are then sorted by electronic sorters to eliminate the seeds that roasted badly. The presence of seeds which are either too light or too dark depreciates the quality.

From : 'Coffee Production' in *Encyclopaedia Britannica*, 15th edition (1974).