

## Tobacco

by Claire Powell and Dave Collett

### What's in a cigarette?

What's in a puff? Tobacco smoke contains about 4,000 chemicals. Some of which are harmful, others deadly. Here are 3 of the deadliest.

#### Tar

Tar, a mixture of chemicals such as formaldehyde, arsenic and cyanide, can cause serious lung diseases. Seventy percent of the tar from tobacco smoke remains in the smoker's lungs.

#### Nicotine

Many people are unaware that nicotine is more addictive than heroine. A powerful and fast-acting drug, nicotine reaches the brain in about seven seconds. One of the major effects of nicotine is an increased heart rate and blood pressure.

#### Carbon monoxide

Carbon monoxide is a poisonous gas formed when a cigarette is lit. The red blood cells absorb the gas more easily than oxygen, so up to fifteen percent of a smoker's blood may be carrying carbon monoxide instead of oxygen. Breathing becomes more difficult because the heart has to work harder to pump less oxygen around the body.

### From seed to smoke

What do tomatoes and tobacco have in common? They are both a member of the same botanical family. Tobacco is grown in more than one hundred countries with China being the largest producer, closely followed by the USA. Tobacco can grow well in poorer soils so a typical farmer can expect a good income from planting this crop.

Seeds and fertiliser are often provided by British American Tobacco. The seeds are so small that they must be protected in seedbeds for sixty days before transplanting to the field. Two weeks later, soil is carefully pushed up against the seedlings to further protect them and help to develop a good root system. Finally, after a couple of months, the flowering plants and some of the upper leaves are cut to allow more growth in the remaining leaves. The crop gradually grows towards the harvesting stage.

### Harvest

In most countries harvesting is done by hand. The farmer takes off a few leaves from the lower part of each plant. A typical farmer can expect to harvest about 15,000 plants. This is quite a lot considering each plant contains around 22 leaves.

### Curing

There are four main methods.

Air-cured tobacco is hung in unheated, ventilated barns until the tobacco dries and the tobacco leaf becomes a light to medium brown colour.

Flue-cured tobacco is made when heat is introduced into a barn through pipes from a furnace outside. The leaves are heated until they turn yellow.

Sun-cured tobacco leaves are hung out on racks and exposed to the sun's rays. The direct heat turns the leaves a yellow to orange colour.

For fire curing, wood is burnt under the tobacco leaves, which dries the tobacco and produces a smoky fragrance.

**Processing**

There are four stages in processing. Dirt is removed from the cured tobacco. The leaf is separated from the stem (a process known as threshing). The moisture content is checked carefully. The processed tobacco is packed into 200kg cardboard boxes, for shipping to manufacturing sites.

**Manufacturing**

At the factory, the matured tobacco is checked for quality and then carefully blended with other ingredients which are needed for the brand recipe, such as flavourings.

Moisture content is crucial. Too dry and the tobacco leaf will crumble; too moist and it may spoil during storage. The blended tobacco is treated with just the right amount of steam and water to make it supple, and then cut into the form in which it appears in the cigarette. The cut tobacco is then given a quality check.

Cigarette making, once done entirely by hand, is today almost fully automated with the cut tobacco, cigarette paper and filters continuously fed into the cigarette-making machines.

Packing machines put the cigarettes into the familiar brand packs, wrap the packs in protective film, and group them into cartons and cases. The completed cases, time-dated to ensure the freshest product possible, are then ready for distribution.

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