MOISTURE EFFECTS

**Low Soil Moisture Effects**

Moisture disturbances in the soil are probably responsible

for more plants growing poorly and being unproductive

annually, over large areas, than any other single

environmental factor. Small or large territories may

suffer from drought over time. The subnormal amounts

of water available to plants in these areas may result in

reduced growth, a diseased appearance, or even death of

the plants. Lack of moisture may also be localized in

certain types of soil, slopes, or thin soil layers underlaid

by rock, clay, or sand and may result in patches of diseased-

looking plants, while the immediately surrounding

areas appear to contain sufficient amounts of moisture

and the plants in them grow normally. Plants suffering

from lack of sufficient soil moisture usually remain

stunted, are pale green to light yellow, have few, small

and drooping leaves, flower and fruit sparingly, and, if

the drought continues, wilt and die (Fig. 10-5A). Although

annual plants are considerably more susceptible to short

periods of insufficient moisture, even perennial plants

and trees are damaged by prolonged periods of drought

and produce less growth, small, scorched leaves (Fig. 10-

5B) and short twigs, dieback, defoliation, and finally

wilting and death. Plants weakened by drought are also

more susceptible to certain pathogens and insects.

**Low Relative Humidity Effects**

Lack of moisture in the atmosphere, i.e., low relative humidity, is usually temporary and seldom causes damage. When combined with high wind velocity and high temperature, however, it may lead to excessive loss of water from the foliage and may result in leaf scorching or burning, shriveled fruit, and temporary or permanent wilting of plants.

Conditions of low relative humidity are particularly common and injurious to houseplants during the winter. In modern homes and apartments, heating provides comfortable temperatures for plant growth, but it often dries the air to relative humidities of 15 to 25% which are equivalent to that of desert environments. The air is particularly dry over or near the sources of dry heat, such as radiators. Potted plants kept under these conditions not only use up the water much faster, grow poorly, and may begin to wilt sooner, but the leaves, especially the lower ones, of many kinds of plants become spotted or scorched and fall prematurely, while their flowers suddenly wither and drop off. These effects are particularly noticeable when plants are brought into such a hot, dry house directly from a cool, moist greenhouse or florist’s shop. Generally, all houseplants prefer high humidity, and certain ones require high humidity if they are to grow properly and produce flowers. Therefore, houseplants should never be placed over radiators, and humidity should be increased with a commercial humidifier, by occasionally dampening the leaves with water, or by placing the pot on a brick or pebbles in a large pan of water, in a plastic case, or some other container.