

CLIMATES AND MICRO-CLIMATES

(From a talk by DR. I. G. BLAIR, broadcast by 3YA)

I HAVE been told that rats in the tropics have unusually long tails; that beef-steak in Alabama is nutritively poor, while in Canada I saw farm horses wearing straw hats. These are among some of the facts of climate. Often, weather—the short-term feature of climate—is accepted merely as an inconvenient menace to week-end plans, while by Canterbury farmers last year it will be remembered by its devastating visitations, first as a tree-flattening gale, then as a wire-flattening snow storm, and finally as crop-flattening hail. Nevertheless New Zealand's climate is supposed to be the world's most salubrious.

To me personally Canada's climate appealed more than our own and in its cycle one could note clearly its marked influence on national habit and charac-

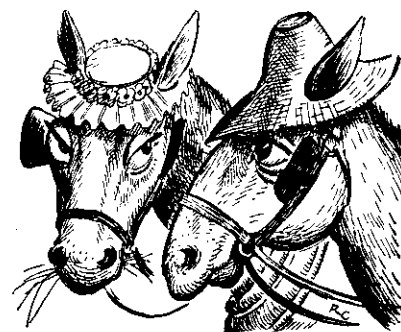
of the microbial kind. It isn't often realised, though, that in contrast cooler regions with less microbial or parasitic disease experience much greater incidence of heart disease, cancer, degenerative troubles—all associated with the violent, strenuous lives our temperate climates encourage us to lead.

Crop Diseases

My chief interest in climate, however, is its influence on crop diseases. Here are a few of the tendencies. Late or Irish Blight of potatoes is seasonal, but the effects of the disease have been determinants in human affairs. It can be demonstrated that the Irish famine, due to the blight of 100 years ago, initiated England's age of economic expansion—after the repeal of the Corn Laws ostensibly for the purpose of bringing in cheap grain to feed the starving. Among other things a million Irish migrated. Now



Rats in the tropics



. . . . Farm-horses in Canada

ter. Canadians have six months of ice and snow at sub-zero temperatures, but with lambent sky and brilliant sunshine, and bone-dry air. Spring there is not a lessening of rainfall and a gradual unfolding of growth. In Canada, spring arrives with a cracking and booming of ice on lake and river—with, overhead, dark lines of migratory birds winging it from the South. In a matter of days a tremendous thaw calls the nation to a new life and the snow-replenished earth receives a 90-day period of intense continental heat—no rain, no wind, so that spring-seeded corn grows 10ft. high in 90 days. You can see it move. That is a climate of extremes which has moulded a nation's personality and character.

Climate and Human Health

Illnesses directly caused by climatic effects are rare, but you may be among those who have learned that it is possible to be snow-blinded in New Zealand, to suffer frost-bite and mountain sickness in Canada, and to relapse under heat-stroke in tropic waters. But climate as expressed by rainfall, humidity, air pressure, and temperature mostly influences health by strengthening or weakening natural resistance. Here it works through diet and food. Or, on the other hand, climate encourages or inhibits the microbial causes of disease. Tropical climates cause a mental prostration, though sometimes it is more a cheerful lassitude—with which goes severe disease

the fungus which causes this potato disease is ever about us, but it goes hay-wire only when certain climatic factors assist. These factors are a little more precise than just "wet weather." Indeed a blight year is one of summer rainfall in excess of long term averages, coincident during that summer with short periods when mean air temperatures drop to about 50deg. F. while the crop remains wet. These factors encourage the fungus to multiply rapidly. It is important to know these climatic influences, for in places where crop spraying has proved necessary, the time to spray can be forecast. Loose smut of wheat is unknown in the arid South Western States of the U.S.A. It is rarely severe in those parts of this country where air conditions are dry when wheat or barley is flowering—in Amuri County, for example, and Central Otago.

"Too Much Wet"

In recent years farmers have become convinced that there is something in the weather at the time of grass flowering which encourages ryegrass blind-seed disease. Some still say briefly "too much wet," but more precisely it can be shown that the interaction of temperature and air humidity at an earlier stage of crop development stimulates an increase of infective matter. In Southern U.S.A., or in Auckland, New Zealand, you cannot get good potato seed at all. The best

(Continued on next page)

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