Defending our food supplies by rat-proofing, sanitation and public hygiene is our best form of attack against the damage and disease caused by rats and other rodents.

Regrettably, a new dish has appeared on the urban rat’s menu during the past two decades: fast food. Last year, a British pest control officer pinpointed convenience meals as an important factor in accelerating the growth in rodent colonies. Miss Sandy Cox, who works in the northern English town of Accrington, estimated that the numbers of rats in her area had trebled in the past ten years. She attributed this population explosion to the easy meat available from discarded fast-food remnants and to public squalor. “Pizza-boxes and fish and chips littering the streets attract vermin from the sewers,” she said.

Superbreeders

Similar population explosions are taking place in United States cities, where American rats are described as “superbreeders” by Dr James Childs, a researcher based at the Johns Hopkins Medical Center in Baltimore. He estimated that these urban rats produced an average of ten young, every six to seven weeks. Experts, quoted in the World Health issue on rats 26 years ago, estimated then that, in general, there was one rat to every single human being in the world, with higher proportions in some countries.
At that time American experts set the rat population at a “mere” 100 million. Today, according to Dr Childs’ estimate, rats equal in numbers the current US human population of almost 249 million, which means that the American rat count may have exploded by 150% in a quarter-century. Moreover, today rats are probably better fed than ever before.

The two most common rats are the black Rattus rattus and the larger, brown, Rattus norvegicus. The black rat has the longer record as a disease vector, but as a plunderer of food supplies and an all-round economic menace, the brown rat overshadows his black competitor. They damage sewers, they chew through lead pipes and they have a special predilection for electric and telephone cables. They seem to have an irrepressible urge to chew up almost anything – due in part to the need to file down their incisors. These grow at a rate of 13 mm a year and, unless they are filed down, the rat dies.

The black rat carried the infamous plague which held western Europe by the throat in the Middle Ages and killed off scores of millions of people within five years. Centuries later, in the great Indian plague of 1896, ten million deaths were chronicled. Today, Indian government reports show that not a single case of plague has been recorded since 1967. However, WHO statistics (for 1990) reveal 1250 reported cases of plague from 12 countries. Although this most dangerous of the rat-borne diseases is no longer of pandemic dimensions, the threat remains.

Rats contribute to the spread of many other diseases, such as haemorrhagic fever with renal syndrome, rodent-reservoired leishmaniasis, scrub typhus and Lyme disease. Less common are trichinosis, caused by eating contaminated pork, and rat-bite fever, also known as soduku – derived from the Japanese words so for rat and doku for poison. In China and other Asian countries where rice cultivation is common, farm workers are sometimes affected with leptospirosis because the paddy fields provide favourable conditions for rats/rodents and the transmission of leptospira. Leptospirosis may also be contracted by handling or eating food contaminated by rat’s urine, and another rat-borne sickness is murine typhus, which can be serious in older sufferers.

Food stocks destroyed

In many famine-stricken areas of the world, rat-pollution of food supplies can mean the difference between starvation and bare adequacy for millions of people, especially refugees. In the Sudd region of...
Africa’s largest country, Sudan, valuable seeds and grain stores in settlements near the unfinished Jonglei Canal are regularly plundered by rats and other rodents, thus destroying the efforts by displaced peasant farmers to survive the rigours of climate and conflict. In Indonesia, Balinese rice cultivators protect their crops from rats with particular vigour: rice is seen as having both a sacred as well as a food value.

One single rat left free to roam a warehouse for one year will, it is estimated, eat about 27 pounds of food and deposit 25 000 droppings to spoil much more. But when rats have to compete fiercely among themselves for reduced food supplies, they thin their own ranks. Consequently, defence by rat-proofing, sanitation and public hygiene is our best form of attack.

One American writer describes a healthy rat as “untrusting, conservative and suspicious”. Researchers in animal behaviour also point to the rat’s “neophobia” or fear of the new; they are averse to anything unfamiliar in their environment. Such items would, of course, include poisoned bait. Moreover, our wily enemy has been known to have developed a resistance to certain types of poison. These factors reinforce the need to safeguard food supplies as a major and safe weapon in the fight against the rat.

This age-old battle with the rat and other rodents must go on; many national bodies and organizations approach their problems along the lines advanced by WHO and are speeding the day when the rat can no longer bring disease, famine and death to mankind.

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