

present, carnauba wax, which is laboriously scraped from the fronds of palm trees, is imported into the United States entirely from Brazil. If hydrogenated jojoba oil could be developed into a domestic wax source, immune from the vagaries of international commerce, US industry would be assured of a continuous supply of uniform quality.

A key factor in the future for jojoba oil, however, is that the shrub could be grown on Indian reservations in the south-western United States, and it could provide a basis for some tribes to become economically self-sufficient. At present, many tribes in the area are living in conditions of extreme poverty.

The problem, however, is that it would be costly to establish plantations, and since it takes on average five years for the shrubs to start producing seeds, return on the investment would be slow.

For those reasons, it is unlikely that industry will move rapidly into jojoba cultivation, and federal government funds will be needed.

According to experience in California, where 34 acres of jojoba were planted in 1974, start-up costs would be between \$1,500 and \$2,800 an acre. The most expensive part of the operation would be clearing and irrigating the land. But, once established, it would cost only about \$100 an acre a year to maintain the plantation and to harvest the seeds. And, since jojoba bushes live for between 100 and 200 years, the initial investment would have ample time to pay off.

Studies have shown that cultivated jojoba bushes would produce, on average, 5 pounds of seeds, and a plantation would yield between 1,000 and 2,000 pounds of oil a year. Since sperm oil

sells at about 40 cents a pound in those countries which still allow it to be marketed, and carnauba wax retails at about \$2 a pound, the committee notes that "it can be seen that returns per acre from established jojoba plantations would be substantial."

Is it possible to predict with certainty that the oil would be in high demand if it were produced? The strict answer is no, but industry has so far shown sufficient interest to justify a qualified yes. Dr Demitrios M. Yermanos, Professor of Agronomy at the University of California, Riverside and a member of the academy committee, noted last week, for example, that jojoba oil has never been available in sufficient quantity for it to be market-tested. But he predicted that once it becomes available in quantity, industry will be very keen to use it. □

## correspondence

### Naples Zoological Station

SIR,—Some time ago (January 18, 1974) you published an interesting note on the Naples Zoological Station, which expressed the concern of the biological community about the future of the station and considered the importance of its future leadership as well as the question of maintaining international participation in its life and activities.

Since then there have been several changes and we should like to tell you how things stand at present.

After the increase of the annual budgetary support by the Italian government, the new set of statutes has been implemented. Consequently, we have seen the end of the seven-year-long "provisional Administration" and the formation of a new Council of Administration and an Executive Committee. A seat on the new Council of Administration is open to any country or institute that contributes more than £40,000 a year; such participation is seen as one of the most effective ways of strengthening and making more formal the international nature of the scientific collaboration that has been a main feature of the station for more than 100 years. We should very much like to think that Britain will have a seat on the new council.

To complete the new organisation of the station, we now need to appoint a Scientific Council (four members of which must be chosen from among foreign biologists, and one of these four by the International Union of Biological Sciences), and a director. It is

hoped that these appointments will be made shortly.

Yours faithfully,

A. BARLAAM

Naples Zoological Station

### Leprosy

SIR,—Most voluntary agencies in Europe engaged in leprosy work are members of the International Federation of anti-leprosy Associations (ILEP) which brings together 22 member-organisations, of which 18 are European. The field of action of the federation extends to some 600 centres or projects in 75 countries afflicted with leprosy. According to the last statistical data available (1973), the federation is helping 1,106,560 leprosy patients, thus representing an important section of the voluntary agencies engaged in the world-wide anti-leprosy campaign. Among all the leprosy patients under treatment in the world, one out of three is aided by the federation. 96% receive domiciliary treatment and only 4% institutional care, as leprosy control is the top priority of the federation, in accordance with the WHO's policy. The total financial help provided by the member organisations is more than £4 million per year. More than 5% of the total budget is spent on research in leprosy (about £360,000 in 1974).

I hope you may consider this as an answer to the following sentence appearing in an article published recently (*Nature*, March 20): "Voluntary agencies in Europe collect more

than £2 million annually for leprosy work, but most is still spent on institutional care".

Yours faithfully,

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### A hundred years ago

The subject is treated of under three headings: General Dietetics, Special Dietetics of Health, and Dietetics in Sickness. The author commences with the question—What is the natural food of man? Flesh-eating animals have teeth, jaws, and limbs suitable for capture and tearing, vegetable feeders have bulky viscera, and so on. Applying similar arguments to the human race, "to judge by form and structure alone, the natural food of an adult man must be pronounced to be *nothing*;" from which we must necessarily deduce, as is indicated by other considerations, that man as man assumed his special characters *after* he commenced the employment of instruments for offence and defence. In fact, the developed heel, with which is correlated the non-arboreal habit, is incompatible with the naturally defenceless condition of our species.—from a review of Dr Chambers 'Manual of Diet'.  
from *Nature*, 12, 64; May 27, 1875.