

LAST year Israeli farmers produced 78% of the foodstuffs consumed in Israel, as well as exporting enough agricultural products to pay for most food imports. Now, with the active assistance of local researchers, they are attempting to reduce further Israel's dependence on imported food products, particularly commodities like wheat and sugar which have gone up in price by hundreds of per cent in recent years.

Research has already been a key factor in raising the average yield of wheat from some 900 pounds an acre in 1950-55 to more than 1,600 pounds an acre today, with yields of 6,000 pounds an acre common in more fertile parts of the country. Current studies could well increase output even more.

Some of the most interesting work is being carried out by Moshe Feldman and Dan Atsmon, of the Weizmann Institute, who are using sophisticated cytogenetic techniques in an attempt to transfer valuable characteristics from native Israeli wild wheat to standard wheat varieties being grown here and elsewhere.

Since this area, long known as the Fertile Crescent, is the cradle of wheat farming, it naturally abounds in wild varieties. And although these are not satisfactory for modern farming themselves, they nevertheless manifest some very interesting characteristics worth "stealing".

Drs Feldman and Atsmon are paying special attention to a species from the Negev Desert (*Triticum longissimum*), which is at home in an area with as little as 25 cm of rainfall annually, tolerates brackish water, and grows and matures quickly—so much so that, were cultivated wheat to ripen as fast, it would be possible to plant and harvest two (irrigated) crops a year.

The Weizmann scientists have isolated seven individual chromosomes of the Negev wild wheat, including the one responsible for its early maturation. Now they are attempting to incorporate selectively these valuable chromosomes into standard wheat varieties, which should make it possible to increase yields in well watered areas, and also permit wheat to be grown in other areas where sparse rainfall has so far prevented its cultivation.

More land will likewise be given over to the growing of sugar beet, while research continues in an attempt to develop other economically viable sources of sugar and sugar substitutes. Ministry of Agriculture studies have indicated, for example, that at present price levels it is worth making sugar from locally grown sorghum.

Meanwhile scientists at Ben-Gurion University of the Negev, led by Pro-

fessor Jaime Wisniak, are concentrating on sugar substitutes, including xylitol. So far produced on a commercial basis only in Japan, xylitol is derived from vegetable residues such as cotton seed hulls, corn and other seeds containing cellulose. It has the same crystalline form as sugar and is actually 10% sweeter. Since it does not require insulin for metabolism of body material, it can safely be used by

cause damage.

- Religion, or more properly religious folklore, provided the name for Israel's largest locally built computer, the Weizmann Institute's Golem. The original Golem was a legendary automaton created by a famous Prague rabbi in the Middle Ages and, like Mary Shelley's Frankenstein, it eventually turned on its creator.

The legend came to mind last week when 30,000 Israeli primary school teachers declared what may have been the world's first strike against a computer. Their one-day walkout was called to protest about difficulties with the Ministry of Education's computer which have caused long delays in the payment of salaries for the past 16 months.

Computing teachers' salaries does present special problems, as 18,000 changes must be taken into consideration every month. But these problems could easily have been solved if it had not been for the human factor.

Trouble began in the Ministry of Education's Data Processing Department some four years ago when it became clear that the rented IBM 360/40 then being used to calculate salaries was no longer able to handle the work load. Department employees suggested that it be replaced by a higher capacity IBM machine, which, coming from the same company, would ease conversion problems. The ministry decided instead to purchase a Burroughs computer because it was \$250,000 cheaper and because, according to benchmark tests carried out in the USA, it was able to perform tasks required by the ministry about 15% faster.

Preparations for conversion to a Burroughs computer were carried out in the department while regular work was done on the old IBM. Difficulties arose, but only became really serious when call-ups because of the Yom Kippur War took away 80% of the data processors. By the time they returned there was near chaos in the salary section, prompting employees to argue that only the introduction of a new IBM could save the situation. When the ministry remained unmoved, 46 of the 47 people in the Data Processing Department handed in their resignations and, according to Education Ministry Director General Elad Peled, left without passing on vital information about tape codes for salary calculations to their replacements (provided by the local representatives of the Burroughs Company).

Peled charged his former subordinates with sabotage; they, in turn, charged him with libel. But all this is of little interest to teachers, who merely want their salaries on time.

Letter from Israel

from Nechemia Meyers



Western Wall: to weed or not to weed?

diabetics. Wisniak proposes that Israel produce xylitol on a large enough scale to meet domestic requirements and to allow for exports.

- Israeli scientists studying plant life are involved not only in solving the country's food problems but also some of its religious problems. Namely, they are being asked by religious authorities whether or not weeds should be pulled out of the sacred Western Wall in Jerusalem's Old City.

Diametrically opposed rulings have been issued by Israel's constantly feuding Chief Rabbis, Shlomo Goren and Ovadia Yosef. Ashkenazic Chief Rabbi Goren declared that the plants could not be pulled out since they are symbolic of the destruction of the Second Temple (in 70 AD) and the longing of Israel for redemption. Sephardic Chief Rabbi Yosef ruled that they could be pulled out, particularly as they might crack the Herodian-period stones.

The man who asked the Chief Rabbis for their opinions in the first place, Rabbi Dov Perla of the Religious Affairs Ministry, has now turned to a botanist to determine—for the first time in the Wall's 1,900-year history—whether or not the weeds are likely to