

'Office ladies' aid research

Tokyo

JAPAN'S rice genome project may be on the verge of having its funding tripled — mainly because of an increased interest in betting on horse races by Japan's 'office ladies'.

That rather curious news was one of the highlights of three meetings in Japan late last month between US and Japanese researchers studying the rice genome. The scientists are attempting to form an international rice genome organization to co-ordinate research among nations, and the sudden prosperity of the Japanese programme makes that country the most likely to take the lead in an international effort.



In April, Japan's rice genome project received official sanction when the Ministry of Agriculture, Forestry and Fisheries agreed to provide \$25 million for a seven-year effort to develop a high-resolution physical map of the rice genome. But the first year's funding of \$2.7 million was not nearly enough to support the 100 scientists that genome project officials had recommended, so project leaders turned to private Japanese companies. This was not completely satisfactory, however, because private companies with an interest in the genome could be expected to restrict access to the results of the research in various ways.

Enter an unlikely saviour: the Japanese Racing Association, which regulates horse racing in Japan. The association returns to racing 75 per cent of the money it earns from wagers but uses the other 25 per cent to support a variety of government projects, including research. And the association finds itself unusually wealthy these days, thanks in great deal to the increased popularity of horse racing among Japan's 'office ladies' — secretaries who have disposable income and spend their money on clothes and entertainment.

The rice genome project has applied to the racing association for \$6 million for the programme's first year of operations, and it now seems likely to receive that amount in October. The money will be funneled through the agriculture ministry to a newly formed Society for Techno-

Innovation for Agriculture, Forestry and Fisheries. This organization, with 160 member companies, will pay the salaries of scientists from Mitsui, Mitsubishi, Japan Tobacco, Sanyo Electric and Kirin Beer who will join the rice genome mapping effort.

This is not the racing association's first genome project. It is also supporting — naturally — a horse genome project, and when the rice genome scientists move into newly built facilities next year, they will share space with researchers working on the horse genome.

The expected additional funding for rice genome research in Japan was the good news at the three meetings — the Third International Workshop on Rice Molecular Biology in Hokkaido, and a forum of the Bio-oriented Technology Research Advancement Institution and the second meeting of the International Rice Genome Organization, both in Tokyo — while the bad news was the failure of US scientists to attract support for their own rice genome project.

The US Department of Agriculture (USDA) is sponsoring an \$11 million Plant Genome Project for 1992, but it has turned down several proposals for major crop genome projects, including one submitted by 10 groups of US scientists for mapping the rice genome. Although the department has not yet formally announced which proposals it will fund, several US scientists at the meetings reported that their own enquiries had found that much of the money will be spent on *Arabidopsis thaliana*, a laboratory model with no direct agricultural value. Jerome Miksche of the USDA's Agricultural Research Service said the department cannot afford to fund individual projects for all the different food crop genomes, and if it funded one, such as rice, then scientists studying every other crop plant would lobby for their own programmes.

Ray Rodriguez, a plant geneticist at the University of California at Davis, argued that it makes sense for the United States to make the rice genome a priority, even though rice is not nearly so important a crop for Americans as for Japanese. Because rice has a relatively small genome — about 450 million base pairs, only one-tenth that of barley and one-fortieth that of wheat — rice can be used as a model system to gain knowledge about the structure and organization of other cereal crops, he said. The genome of *Arabidopsis* is even smaller than that of rice, with only 70 million base pairs, but it is too different from cereal crops to be a valuable model.

Japanese scientists said they would like a US rice genome project to represent US scientists in an international organization that would coordinate the flow of data

among researchers worldwide. Of course, individual laboratories can exchange information informally, and one such international exchange has already occurred. Akira Saitoh, who heads Japan's rice genome mapping efforts at the Department of Molecular Breeding at the National Institute for Agrobiological Resources in Tsukuba, traded genome information with Steve Tanksley at Cornell University. But as more groups work on the rice genome, including researchers in Taiwan, Indonesia and the International Rice Research Institute in the Philippines, a formal international organization would help to avoid duplication.

With Japan's efforts so well organized, most US scientists look to it to lead a formal international organization growing out of the International Rice Genome Organization, which is now just an informal group of two dozen scientists promoting international coordination.

Jane Ferrell

SCIENCE MAGAZINES

Disney rescues Discover

Washington

WHEN the editors of the popular US science magazine *Discover* found themselves unexpectedly out of work last month after the magazine's parent company went under, they knew that if they were to be published again it might mean wearing some new hats. They did not know, however, that those new hats would come equipped with mouse ears as standard equipment. Last week, under a Mickey Mouse letterhead, Walt Disney Co. announced it had agreed to purchase the magazine and resume publication beginning in November. *Discover* will join a nature documentary service and the popular Epcot Center technology theme park in Disney's science stable, as the entertainment conglomerate moves to bolster its education efforts.

Editor-in-chief Paul Hoffman says *Discover* will retain most of its original staff, although about two-thirds of the employees will move to Burbank, California, Disney's corporate home. The remainder will stay in New York, where *Discover* was published until it was shut down last month by its previous owners, Family Media Inc. (see *Nature* 352, 559; 15 August 1991).

With a circulation of 1.1 million, *Discover* has turned a modest profit in recent years, albeit at the price of taking virtually anything in the way of advertising, even if it ran counter to the magazine's editorial content. That, Hoffman says, will change with the new ownership. *Discover* will no longer accept cigarette advertising and what he calls "fruity New Age ads". Disney also plans to extend the magazine's name to television specials, a possible children's science magazine, and theme park attractions. Christopher Anderson