IN brief

GM crop biosafety lab folds

A fully equipped laboratory for studying pathogen-resistant transgenic plants will close its doors by the year's end. The International Centre for Genetic Engineering and Biotechnology (ICGEB) Biosafety Outstation in Ca'Tron di Roncade, Treviso, Italy, was set up to study potential risks concerning genetically modified crops and plant pathogens of importance to the developing world. The outstation's facilities, part of the ICGEB, were refurbished with financing from Treviso-based Cassamarca Foundation, supported by banking group Unicredit. But the bank's financial woes have prevented the foundation from renewing the €4-million ($5.7 million), 5-year contract, says Mark Tepfer, leader of the outstation's Plant Virology group. Tepfer will transfer some his projects to his permanent appointment at the French National Institute for Agricultural Research in Paris. "I'm fairly optimistic that we'll find a way to continue," he adds. The ICGEB operates under a treaty signed by 59 countries within the United Nations system to conduct research and education in biomedicine, crop improvement, environmental remediation and biopharmaceutical and biopesticide production throughout the developing world. ICGEB administrator Decio Ripandelli hopes to shift some of the outstation's research and education programs to the Trieste and New Delhi groups. Ripandelli says he lobbied the Cassamarca Foundation to put the facilities, including a high-containment greenhouse, into a "pharmacological coma" to avoid restarting from scratch but the foundation is noncommittal. Ripandelli says, "It's really a pity and a scandal if the facilities are not used." *Lucas Laursen*

Plant genomics' ascent

Grants supporting plant genome research in the US have reached an all-time high. Over 2009, the National Science Foundation (NSF) doled out nearly $102 million, the largest sum since the annual grant program began in 1998. The funding aims to increase understanding of plant gene function and the interaction of plant genomes and the environment. "This funding lets you tackle bigger problems," says David Salt, a former grant recipient and plant biologist at Purdue University. "It lets you devise more integrated and collaborative projects." The NSF chose 32 projects focused on "economically important crop plants" ranging from West African cultivated rice to poplar trees, according to the foundation. The largest award, worth more than $10.4 million over four years, went to a proposal to help complete the international effort to sequence the tomato genome. James Giovannoni at Cornell University's Boyce Thompson Institute for Plant Research in Ithaca, New York, leads the project. The NSF also chose for the first time a switchgrass research project. With a grant worth more than $4.5 million, Thomas Juenger and his team at the University of Texas at Austin will explore over the next four years how switchgrass responds to drought and other stresses caused by climate change, to expand the knowledge needed to develop switchgrass as a biofuel crop. *Emily Waltz*

Box 1 China sets up raft of state-backed VC funds

In an unrelated but perhaps even more significant move, the Chinese government has, in one stroke, set up 20 new venture funds to invest in technology start-ups, including biotech, as a prime focus. The venture funds, worth up to ¥8 billion, are sponsored by the National Development and Reform Commission, a leading economic development body.

The funds will be administered through seven provincial-level governments, starting with Beijing, Jilin, Shanghai, Anhui, Hunan, Chongqing and Shenzhen. More provinces are expected to follow suit. "This is a new signal that the government is starting to look for new economic engines," says Zheng Yufeng, senior manager of Investment Banking Division of Beijing-based Zero2ipo Group. Zheng points out that nearly 20% of this fund has been allocated to biotech and pharma firms.

But Hui-Hsing Ma of TVM Capital believes the impact of these funds on China's biotech industry is likely to be slower and less transparent than private stock exchange investment. Few Chinese provincial governments are sophisticated biotech investors and they naturally tend to be biased towards their own regional agenda, she says, although venture capitalists looking for Chinese deals would welcome them as co-investors.

energy to software, robot design and biotech. Four biotech/pharma companies are listed on the exchange (**Table 1**)—Chongqing Lummy Pharmaceutical in the Chongqing municipality, Anhui Anke Biotechnology in Anhui province, Beijing Beilu Pharmaceutical and Chase Sun in Tianjin municipality—as developers of innovative drugs rather than the traditional generics or device firms. To qualify for ChiNext, companies must generate at least ¥50 million ($7.4 million) in the previous fiscal year, and made profits of at least ¥5 million in that year, or ¥10 million in two years. This excludes most high-risk, development-stage biotech companies, which have no products on the market.

Despite the restrictions on company eligibility, the immaturity of the Chinese market and signs that local investors are looking to turn a quick profit, several analysts are upbeat. The new exchange will provide not only investment opportunities but also a new financing vehicle for fledgling Chinese companies.

"Despite irrational near-term market performance, long-term prospects are rosy," says Zhang Yuanda, deputy secretary-general of China Association for SMEs (small and medium-sized enterprises). Indeed, although Ma says it is very early days, the high initial valuation achieved "is a definite incentive for this exit/financing option," indicating that ChiNext could be an important source of capital for the Chinese biotech industry at least. That said, when Chinese biopharmaceutical firm Nuokang announced in November it wanted to raise up to $69 million from an initial public offering (IPO) (it raised $32.9M in the end), it chose to file it on the NASDAQ rather than in China, even though Nuokang is profitable and thus would easily qualify for a ChiNext listing.

The strict eligibility requirements for ChiNext also offer advantages, according to Ma. "This makes it less risky than other pre-revenue exchanges in the region, like the Tokyo's MOTHERS and Korea's KOSDAQ," says Ma.

However, the need for profitability means that the exchange will be unlikely to provide another source of funds for cash-hungry Western biotech firms or for their backers looking for a better-value exit than selling up to big pharma or a rival biotech firm. The regulatory, financial and language hurdles of the Chinese markets continue to be too daunting: "China is a difficult place to figure out", says Drew Senyei, managing director of VC firm Enterprise Partners in La Jolla, California. In any case, many venture capitalists think that a return of the US or European IPO market is the only real hope for cash-hungry biotechs. "We are cautiously optimistic about the US IPO market for biotech, but are much less so about the other markets," says Jamie Topper, general partner at Frazier Healthcare Ventures, of Menlo Park, California.

Markus Hosang, general partner at VC firm BioMedPartners in Basel, is also unenthusiastic about the idea of a Chinese float. "We do look for M&A exits for our companies on a global basis, but an exit through IPO would probably have to take place on one of the European stock markets," he says.

David Seemungal of Cubase Consulting, London, reckons the more successful Western biotech companies will probably shy away from the Chinese market until they perceive that more robust intellectual property enforcement is in place. And far from benefiting from China's accelerating move into biotech, the West could even lose out, says Seemungal. "There could be a brain drain of biotech expertise from ailing Western biotechs to Chinese-based biotech companies newly established on the back of Chinese state funding," he says.

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