

**John F. Robins, Secretary & Campaigns Consultant,
Animal Concern Ltd, Post Office Box 5178, Dumbarton G82 5YJ.
Tel. 01389-841-639, Mobile: 07721-605521.**

E-mail: info@animalconcern.org website: <http://www.animalconcern.org/>

**Animal Concern Ltd is a Registered Scottish Charity (No. SC050422) and a registered non-profit making
Limited Company (Co. No. SC109126)**

Established in 1988 as Animal Concern (Scotland) Ltd.

It incorporates the Scottish Anti-Vivisection Society which was founded in 1876

The Five Piggies of the Apocalypse

(First published March 2000)

How much is a pig worth? A farmer in Fife producing free-range organically grown animals for the top end of the meat market might expect to get upwards of £75 for a prime porker. That is good money for farmers today. However margins are tight and even breeding pigs worth £75 each is not going to make you a fortune.

To make some big money out of pigs you should forget any nonsense about breeding free-range organic “happy” pigs and get into the cloning business. Why breed animals worth £75 when you can create critters worth over £3 million each! After PPL Therapeutics announced they had cloned five piglets their shares jumped 19 percent bringing the value of the company to over £95 million pounds. That makes Alexis, Carrel, Christa, Dotcom and Millie, born at PPL’s laboratory in Blacksburg, Virginia, USA on March 5th, worth around a cool £3,059,000 apiece.

This scientific breakthrough puts PPL Therapeutics way ahead of its competitors in the race to be first to create commercial quantities of pigs to supply organs and cells for transplant to humans. If they corner that market PPL could be raking in around seven and a half billion pounds a year.

Before you phone your stockbroker to hog your place at the trough it might be as well to look at the drawbacks of the cloned pig industry. Britain has led the way in producing genetically altered pigs whose organs are less likely to be rejected by human recipients. One technique is to de-activate a gene called alpha 1-3 gal transferase. This gene produces a sugar in pig cells which the human immune system recognises and attacks, causing organ rejection. Once you turn off that gene, removing the sugars which identify a pig organ as a pig organ, the human immune system is less likely to attack the transplanted liver, kidney or heart. Coupled with tailor made anti-rejection drugs, modified pigs could provide an endless supply of organs for transplant to humans.

One major problem is that only a small percentage of piglets born to transgenically modified sows carry the necessary genetic alteration. For every potential donor piglet dozens more are born as ordinary pigs which are of no use for transplants and have to be destroyed. To avoid this waste the idea is to take cells from transgenically modified pigs, use these to clone embryos identical to the parent animal, implant the embryos into surrogate mother pigs and then wait for the arrival of litters of pigs matching in every way their genetically modified unnatural parent.

In previous experiments, including those which produced Dolly the cloned Roslin sheep, it was discovered that a side effect of cloning was the production of damaged offspring. Some of these miscarried and others were born malformed and either died shortly after birth or had to be destroyed. Even with such problems cloning would still produce a much larger number of viable offspring than breeding directly from modified animals. With each surviving cloned pig worth tens of thousands of pounds the losses would be financially acceptable.

Animal to human transplants, or xenotransplantation to give it its Sunday name, has been the dream of medical researchers for many years. About fifteen years ago I found myself in the company of a very reluctant sheep and two very enthusiastic scientists on the roof of an old warehouse in London docklands. We were there for a Channel Four debate on xenotransplantation. I put it to the scientists that modifying animals to make their tissues more like human tissues creates a bridge across which animal diseases could cross to humans. The scientists suggested I was dafter than the sheep and spouting scaremongering nonsense.

Eleven years later, after thousands of sheep, pigs and other animals had died in xenotransplant experiments, the British government refused to allow clinical trials involving transplanting organs from genetically modified pigs to humans. The reason for this moratorium was that some scientists had identified the risk of diseases crossing the species barrier from pigs to humans! The risk they identified was one of retroviruses found in pigs being transplanted with the pig organs and putting the human recipient at risk. That ban on animal to human transplants is still in force in the U.K. but those set to make vast profits from such transplants are lobbying hard for permission to start clinical trials. Companies are also moving their research out of the U.K. to other countries where such strict controls are not in force.

At the hazard of once again being called a scaremonger I have to disagree that pig viruses present a risk only to individuals receiving pig organs. What scares me is that there already exist herds of pigs modified to make their tissues more like human tissue. These animals could be acting as incubators for new diseases to which humans have no resistance or medication. It would not take a transplant to transfer such diseases to humans. All it would take would be for a laboratory worker to pick up the illness from contact with the animals and then carry that illness home and into the wider community.

At the moment only a few relatively small herds of genetically modified pigs exist. Now that cloning these animals is a reality there could be hundreds of large herds within just a few years. The risk of a potential new epidemic of lethal disease is about to multiply.

Other issues have to be taken into account. Despite what they might say scientists are not doing this research out of altruism. You will not be able to nip down to the butchers and buy a plug-in pig heart or liver for a couple of pounds a pound. These organs will cost many thousands of pounds each and, if they are tied into a lifelong course of tailor-made anti-rejection drugs, it will cost thousands of pounds a year to maintain each patient. Our National Health Service is already desperate for a transfusion of funds. The bill for xenotransplantation would bleed it to death.

Pig to human transplant experiments highlight the lack of ethical and political controls on research. Despite the risks to humans and the fact that our health service may never be able to afford these new procedures, scientists have been allowed to go ahead. Thousands of animals have suffered and died and all we currently have to show for it is the risk of a new disease.

Politicians could make major changes by introducing an opt-out system for human organ transplants thus releasing far more organs for transplant. They must also suspend all xenotransplant research until the risks have been fully identified and the ethics of subjecting animals to the suffering involved in these dubious experiments is fully debated.

At the moment it is not just animals which are at risk. The whole human population is unwittingly taking part in an extremely dangerous experiment where the basic building blocks of life are being tampered with and changed without due consideration of the consequences.
END.

John Robins, Director Ethical Promotions Ltd and Campaigns Consultant to Animal Concern.
First published in the Edinburgh Evening News, 15/3/2000.