

# Days of swine and roses

Danish farmers are keen to combine hi-tech pig farming with rose growing, enabling pig manure to be utilised as fertiliser. Traditional farming is undergoing change

By Kathrine Schmeichel

Star-shaped building complexes, underground warehouses, multi-storey pig farms and tarpaulin-covered cattle shelters are just some of the stunningly bright ideas that came out of the 'Farm Buildings for the Future' contest.

The summer of 2007 saw 18 Danish consortiums, consisting of architects, engineers and contractors, presenting their highly imaginative ideas on the farm buildings of the future. They considered factors such as aesthetics, environmental sustainability, animal welfare and economics in their ideas for agricultural buildings.

The 'Farm Buildings of the Future' contest was initiated by the Danish financial institution Realdania. Seven of the consortiums were selected for completion with the aid of funding from both the farmers involved and Realdania, which is providing financial support to the tune of DKK 50m (USD 9m).

## Innovative ideas are not cheap

Commenting on the inventive proposals, Erik Rykind-Blarke, project manager at Realdania, says:

"I think we can safely say that the traditional, four-wing farm building complex will become a thing of the past. But I must also say that the proposals have been way too expensive right across the board. To be realistic for the seven farmers involved, their

new building complexes shouldn't cost more than DKK 100-120m (USD 19-22m). Right now the costs are double or even quadruple that figure. So we will be carefully analysing the financial aspects of the winning projects to ensure that their ideas have a realistic application."

He adds:

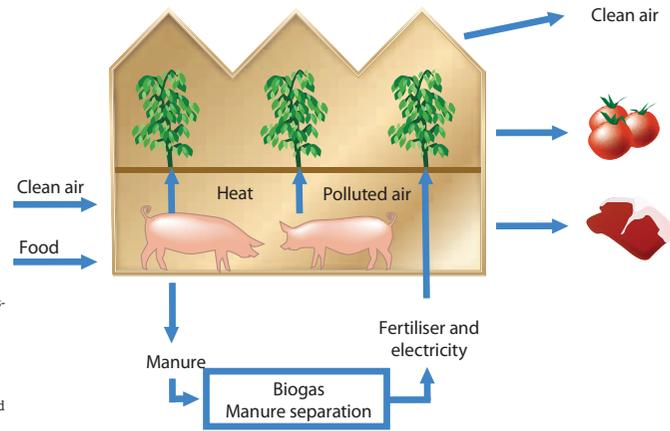
"These competitions are very good because they allow us to experience how consortiums of architects, engineers and contractors can work together with the farming community and how, by joining forces, they can influence the industry's development, building bridges between sectors that are normally worlds apart."

## Sustainability, pigs and roses

One of the projects that two of the seven participating farmers would like to initiate is a state-of-the-art pig farming unit of 16,000 m<sup>2</sup>.

Quite unusually, two consortiums were nominated winners for this particular project. Following an in-depth dialogue with the two pig producers, both consortiums made the innovative suggestion of combining pig production with horticulture. Pigs would be kept on the ground floor while tomatoes or roses would be grown in first-floor greenhouses.

Not only would the greenhouses benefit from the warmth generated by the pigs below, pig manure could



## Realdania

Each year the Realdania Foundation makes donations to projects supporting non-profit and charitable organisations, primarily within the built Danish environment. In 2006 it contributed DKK 2.1 bn (USD 393m). Realdania also manages an investment business, acquiring and developing property in order to preserve the building heritage and to develop the construction sector. Visit [www.realdania.dk](http://www.realdania.dk) for more information.

cowi is attached to the project as a process consultant and secretariat for 'Farm Buildings of the Future'.

"The idea of growing tomatoes and roses alongside pig farming is so simple, and the synergy effect so great, it is strange that no-one has contemplated it before!" 38-year-old Søren Hansen says.  
Photo: Niels Age Skovbo

also be used as fertiliser, which pig producer Søren Hansen describes as "the purest compost". This would also avoid the stench associated with open manure tanks.

## Simple idea - major impact

Unfortunately, both proposals are fundamentally too expensive to initiate, but Søren Hansen remains very impressed by the concept.

"Tomatoes and roses are both crops that need significant phosphate input and as pig manure contains phosphate in the form of ammonia, it makes real sense to combine the two businesses. Not to mention the added benefit of combining pig farming with the sight and fragrance of roses!"

"The idea is so simple, and the synergy effect so great, that it is strange that no-one has contemplated this before. The keywords are sustainable energy, CO<sub>2</sub> reduction, and protection of the water environment. In addition to the environmental benefits there is great export potential in the idea because it would be of interest to many farmers all over the world."

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