## Sheep bred to be pathogen-free protect farmers from disease and could be a source of customized human organ replacements

[Specific pathogen-free, or] SPF sheep sell for roughly \$3,400 per head, compared to the \$200 or so a sheep would be worth in the meat market. And that kind of dollar spread gets attention from farmers and agricultural officials.

The animals are specially bred and raised to be free from 54 common livestock illnesses. The company that produces them in New Hampshire, New England Ovis, bills the sheep as the world's healthiest.

The animals' health is what makes them especially valuable to medical researchers. Not infrequently, scientists have to cancel animal studies already underway when animals become sick. By eliminating most of those variables, SPF sheep greatly reduce the chances of a study being shut down halfway through.

But the really big excitement is focused on the not-too distant future, perhaps five to 10 years down the road. Those same SPF sheep could be a source of customized organ replacements for humans.

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"The results for people can be extraordinary, like helping to provide a new ear to a wounded veteran or providing the tissue for a heart transplant," [Virginia Agriculture Secretary Joseph] Guthrie said. "We are interested in having more discussions and learning more about how this new venture can enhance agriculture in Southwest Virginia."

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