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## Regulating food and water restrictions

Research scientists must sometimes limit the amount of food or water provided to animals used in studies, which can negatively impact the health and welfare of these animals. Willems describes the veterinary and regulatory concerns that laboratory personnel should consider when limiting animals' access to food or water. He concludes that by adequately attending to the needs of animals that are receiving less food or water than required by regulation, researchers will improve animal welfare and study results.

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## Individual housing of bullfrogs

Housing of less common laboratory animals presents the challenge of meeting the needs of unique species and the opportunity to learn new information and methods. At the request of a researcher at their institution, Alworth and Vasquez created a new system for individually housing bullfrogs. The authors modified 5-gallon buckets to provide a simple, inexpensive housing system. The bullfrogs housed in this system remained healthy and behaved normally.

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## Billing of animal research costs

For many years, the US biomedical research community has debated how to charge different aspects of animal research costs. Lang explains why the community has yet to clearly define which elements of animal research should be billed as direct costs, and which should be billed as indirect (or facilities and administrative) costs. He then suggests ways to more accurately define what constitutes direct versus indirect costs.

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