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www.ufaw.org.uk

Animal Welfare 2016, 25: 339-346
ISSN 0962-7286
doi: 10.7120/09627286.25.3.339

Reducing the effect of pre-slaughter fasting on the stress response of rainbow trout (Oncorhynchus mykiss)

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Abstract

*Fasting is commonly used in aquaculture to empty the gut before slaughter, but little is known about how feeding frequency before fasting affects the stress response of trout. To find out more, 240 rainbow trout (*Oncorhynchus mykiss*) were separated into three groups with different feeding schedules during the final month of fattening, from 26 September to 28 October 2013 (daily, every two days or every four days) and two durations of pre-slaughter fasting (two days of fasting; 24.3 degree days, to nine days of fasting; 102 degree days). After slaughter, a number of stress-related parameters were measured, such as liver glycogen, skin/gill colour and haematological parameters (cortisol, glucose, lactate, triglycerides, lactate dehydrogenase and creatine phosphokinase). Trout given food every two days on the farm had lower levels of cortisol and higher levels of triglycerides and liver glycogen than the other treatments after two days of fasting; indicating that habituating trout to feed once every two days in the final month of fattening lowered their stress response to two days of fasting before slaughter.*

Keywords: *animal welfare, cortisol, fasting, glycogen, rainbow trout, stress response*