Department of Poultry Science
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Poultry Housing Tips

Evaporative Cooling Pad Performance Charts

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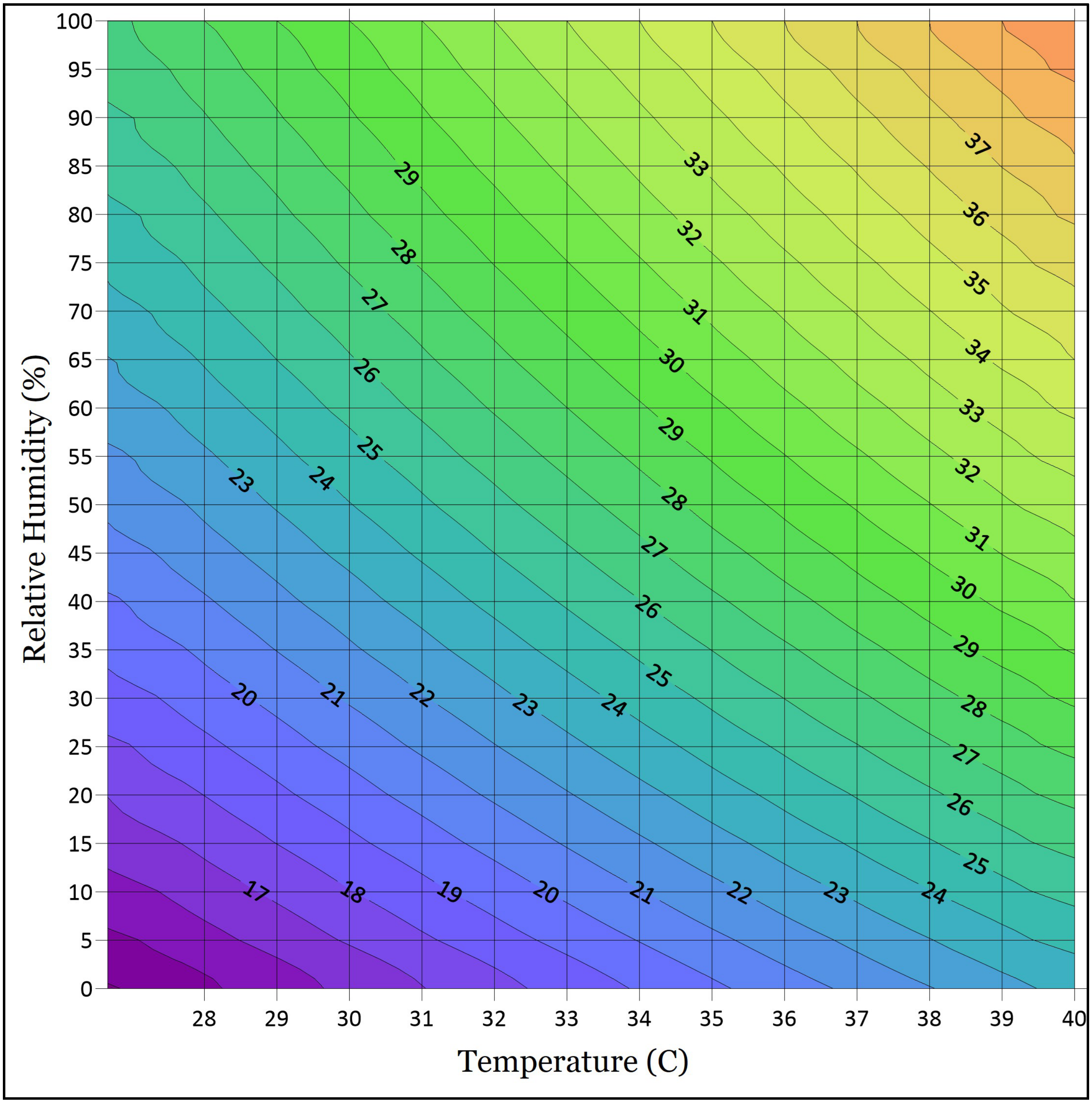

Figure 1. Incoming air temperature for a properly wetted, 15 cm, paper evaporative cooling pad (45X15) as a function of outside temperature and relative humidity

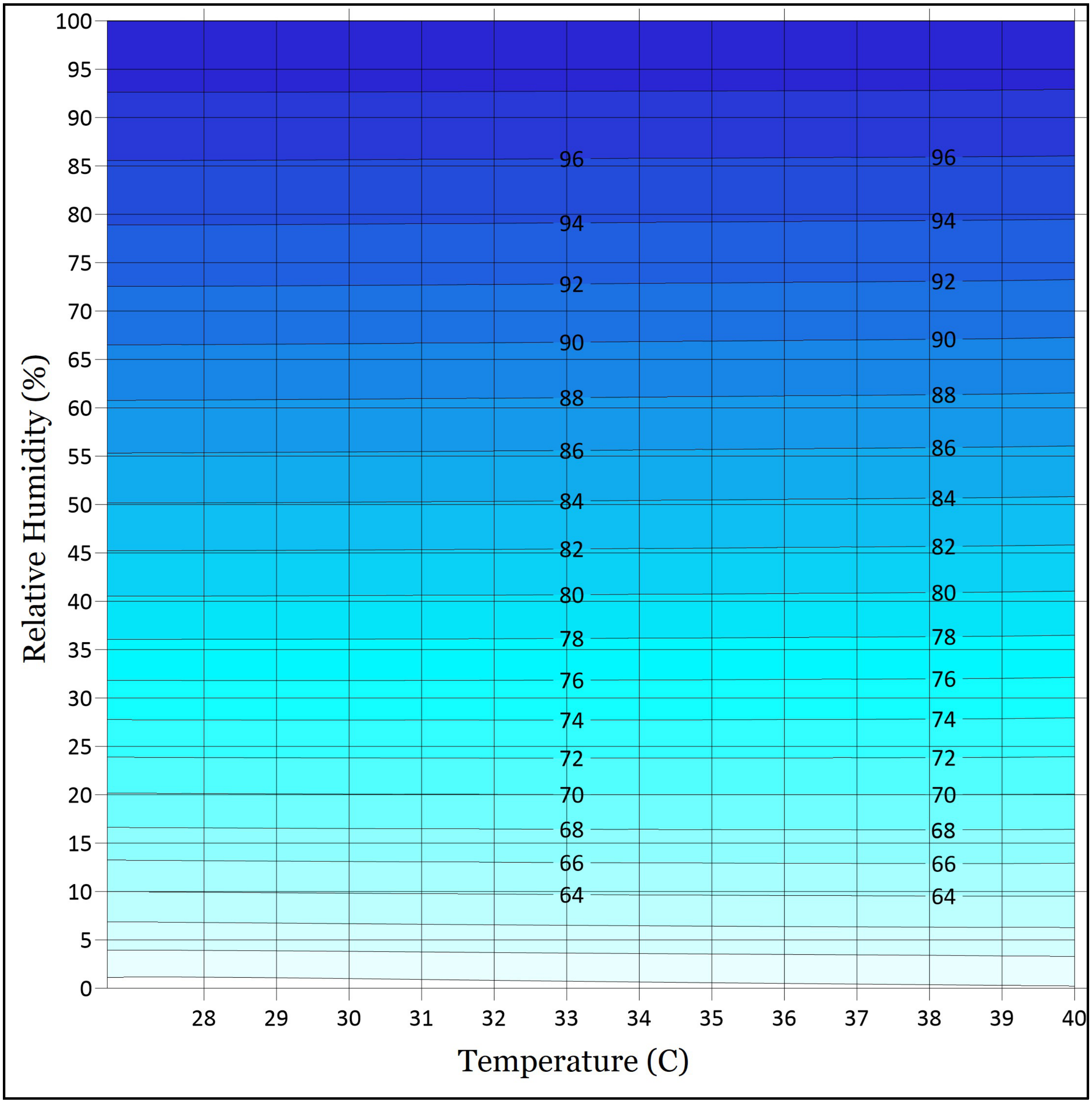

Figure 2. Incoming air relative humidity for a properly wetted, 15 cm, paper evaporative cooling pad (45X15) as a function of outside temperature and relative humidity

Figure 1 illustrates the incoming air temperature for a properly wetted, 15 cm evaporative cooling pad, while Figure 2 illustrates the predicted incoming relative humidity. The precise amount of cooling, and therefore humidity, produced by any evaporative cooling pad will vary with how throughly a pad is wetted as well as its age. If significant portions of the pad are dry, the cooling produced will be lower and, in turn, the humidity will be lower. As pads get older, dirt and minerals collecting on pad surfaces tend to increase the surface area of the pad, resulting in slightly increased cooling and humidity.

The relationship between the amount of cooling produced by an evaporative cooling pad and the resulting increase in relative humidity is fairly consistent. For every one degree of cooling produced by an evaporative cooling pad, the incoming humidity will increase by approximately 4.5%. Controlling pads with an interval timer does not change this fact. In the end, the only way to reduce humidity when using pads is to reduce the amount of cooling produced by the pads.

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