USA Comments to the Terrestrial Animal Health Standards Commission – February 2015 Report

Chapter 10.4.

INFECTION WITH AVIAN INFLUENZA VIRUSES

…

Article 10.4.25.

Procedures for the inactivation of avian influenza viruses in eggs and egg products

The following times for industry standard temperatures are suitable for the inactivation of avian influenza viruses present in eggs and egg products:

	Core temperature (°C)	Time
Whole egg	60	188 seconds
Whole egg blends	60	188 seconds
Whole egg blends	61.1	94 seconds
Liquid egg white	55.6	870 seconds
Liquid egg white	56.7	232 seconds
10% salted yolk	62.2	138 seconds
Dried egg white	67	20 hours
Dried egg white	54.4	~~513~~ **50.4** hours
Dried egg white	**51.7**	**72 hours**

Explanation of proposed change: Reduce the time parameter required to inactivate avian influenza virus in dried egg white at a core temperature of 54.4 degrees Celsius **from 513 to 50.4 hours.** Additionally, add a new row to recognize a lower core temperature standard that is also used by industry -- specifically, 72 hours at 51.7 degrees Celsius.

Rationale:

When using the equation in Figure 3 of the referenced scientific article: "Thermal Inactivation of H5N2 High-Pathogenicity Avian Influenza Virus in Dried Egg White with 7.5% Moisture" as shown in the following table, the treatments would be successful at 130F (54.4C) and 125F (51.7C); for 2.1 and 3.0 days respectively.

Temp (Celcius)	Dt(min)(log10)	Dt(min)	time for 7log10 reduction (min)	time for 7log10 reduction (hrs)	time for 7log10 reduction (days)	time for 7log10 reduction (days) + 2 RMSE	temp (F)	
54.4	2.580564	380.6835	2664.8	44.4	1.9	2.1	130	Dried egg White
51.7	2.728902	535.6758	3749.7	62.5	2.6	3.0	125	Dried egg White

Reference:
Thomas C. and Swayne D.E., 2009, *Thermal Inactivation of H5N2 High-Pathogenicity Avian Influenza Virus in Dried Egg White with 7.5% Moisture.* J Food Prot; 72(9): 1997-2000.