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# Memorandum

**To: AAFCO**

**From:** Alexander MacDonald, PhD

**Date:** 2/26/2010

**Re: Purdue University Central Machine Shop Tumbler Mixer**

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A critical step in the laboratory preparation of a feed for analysis is the grinding step and re-blending after grinding. The blending step at the Indiana State Chemist's laboratory uses a tumbler-mixer that rotates the mixer jar at a 45° angle that provides excellent mixing. The mixer is simple, straight forward and was built and sold in the 1950's. It is no longer available nor is there an equivalent current device in the marketplace.

Drs. Siegal and Ragheb of the Indiana State Chemist Office put me in contact with the Purdue University Central Machine shop and the manager has designed a tumbler-mixer based on the 50+ year old model in use. The machine drawing is attached and will use a 60 rpm motor with a timer. The prototype will be completed by 22 January 2010 and will be evaluated at the Indiana State Chemists' Laboratory the following week. A commercial laboratory will then evaluate it for use in their facility.

If all of the testing indicates a usable potential mixer, it will be made available through the Purdue University Central Machine Shop either directly or through the Indiana State chemists' office. The projected cost will be between \$3,000 and \$2,700 depending on the numbers ordered and if it will be an internal Purdue order or an external order.

I will arrange to provide test results, a video of the working device, and how to order by mid-February 2010.