

## Protein Determination

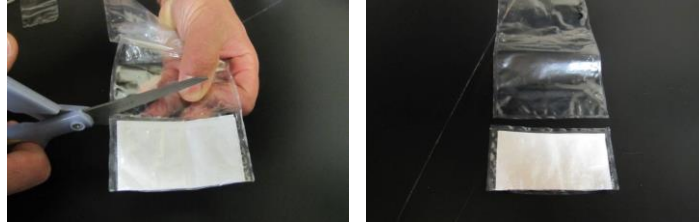
**NOTE:**

AOAC method 991.43 suggests that the Kjeldahl method be used for determining protein content. Since a large amount of acid is used in the Kjeldahl digestion process, make sure you use enough base in the Kjeldahl distillation process.

### IDF – Kjeldahl Method

To determine the protein content within the IDF residue, follow the procedure below.

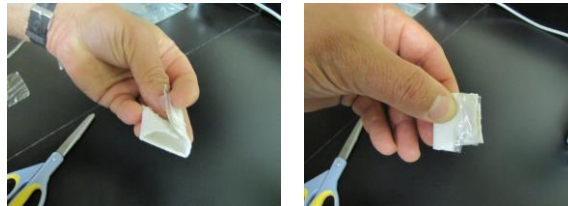
1. Cut the filter bag just above the seal.



2. Cut off the polypropylene skirt that covers the filter (both sides) being careful to keep the filter sealed and intact. This minimizes the acid needed to digest the filter bag during the Kjeldahl procedure.



3. Fold the remainder of the filter bag in thirds from side to side; then fold from top to bottom.



4. With your Heat Sealer set to “6” (setting may vary depending on heat sealer and power source), place the exposed polypropylene material from your final fold down, and press the Heat Sealer arm down for 3 to 4 seconds to seal each bag. Repeat if necessary.



5. Label the folded, sealed filter bag.
6. Repeat steps 1 – 5 for all IDF bags that will be used for determining protein content.
7. Run a Kjeldahl procedure on each filter bag using 17 ml of H<sub>2</sub>SO<sub>4</sub>, 10 g of K<sub>2</sub>SO<sub>4</sub>, and 300 mg of CuSO<sub>4</sub>·5H<sub>2</sub>O in a system with 250 ml tubes that have a 42 mm diameter. Pellets can be used if an equivalent amount of K<sub>2</sub>SO<sub>4</sub> is added. To slow down the rate of foaming during the digestion process, ramp up the temperature slowly.