

Agricultural Liming Material (Ag-Lime) Sampling Procedure

Safety First

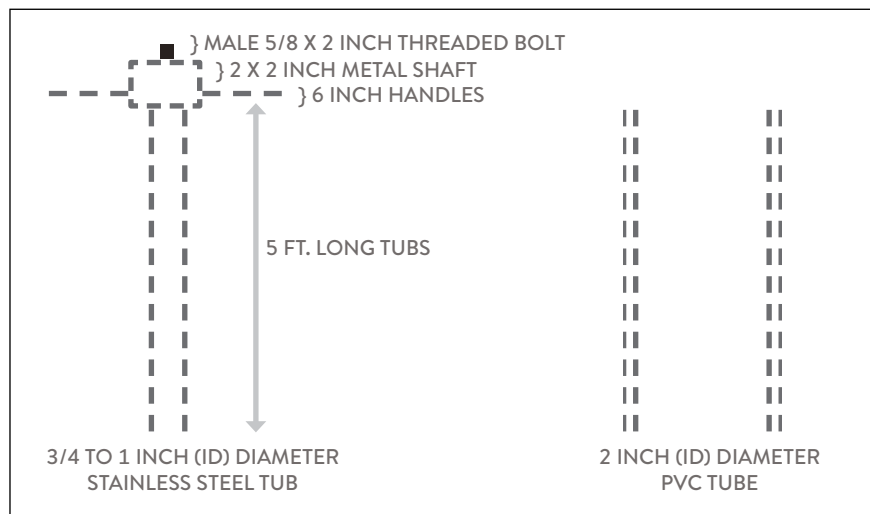
1. Follow directions of company safety coordinator or officer.
2. Do not collect samples if an unsafe condition exists (confined spaces, extremely steep areas, overhead material, etc.);
3. Always wear a hardhat and other required safety equipment;
4. Beware of the whereabouts of loading equipment, conveyors, trucks, and other equipment that may pose a hazard during sample collection;
5. Take care when climbing stockpiles, into truck boxes, and other areas/containers where sample collection will take place; and
6. Sampling methods/procedures may be altered to coincide with reducing or eliminating a safety hazard. Contact the Minnesota Department of Agriculture to request a variance in the sampling procedure for reasons of safety.

Official Sampling Procedures

Stockpile/Holding Area/Transport Box (Ag-Lime Storage Area) Core Sampling Procedure:

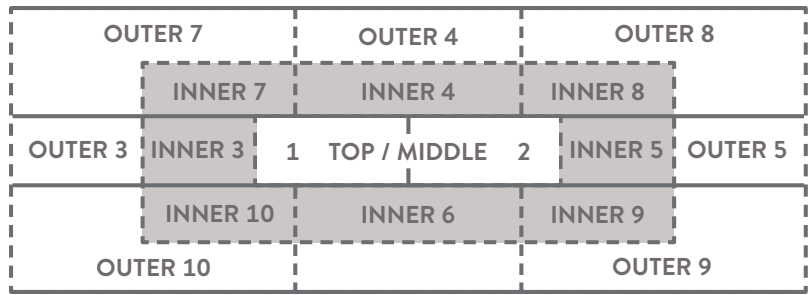
- a. Required equipment: 5 foot long by 3/4 to 1 inch diameter stainless steel sampling tube enclosed in a 5 foot long by 2 inch diameter PVC sleeve tube as specified by the Minnesota Department of Agriculture (see Figure 1). Make sure both tubes and sample collection container is free from anything that might contaminate the sample(s).

FIGURE 1 Official Ag-Lime Core Sample and PVC Sleeve Tubes



- b. As needed, dig approximately one (1) foot in depth from the outer surface of the ag-lime storage area (i.e. container/holding area or stockpile) to remove any coarse/eroded material that does not represent the ag-lime material. Provide enough space to safely collect an ag-lime core.
- c. Using the sampling tube, collect at least ten (10) cores at a minimum depth of five (5) feet in at least 10 different locations in the ag-lime storage area. If there is main loading location in the ag-lime storage area, most of the cores may be collected from this general location of the ag-lime storage area, otherwise refer to Figure 2 for locations to collect the ag-lime cores.

FIGURE 2 Points where ag-lime cores are collected from an ag-lime storage area. If more than 10 cores are collected utilize the following core collection RATIO of: 1 (top/middle areas 1&2) to 2 (Inner shaded areas of 3, 4, 5, 6, 7, 8, 9, 10) to 2 (Outer areas of 3, 4, 5, 6, 7, 8, 9, 10).



Stockpile/Holding Area/Transport Box (Ag-Lime Storage Area) Core Sampling Procedure:

- d. Once an ag-lime core has been obtained, place the sampling tube containing the ag-lime core into the PVC tube. Place the end of combined sampling/PVC tubes into a labeled, air/water tight sample collection container (i.e. plastic container or bag-zip lock bag preferred). The PVC tube serves to prevent fines in the ag-lime core from being blow away when being placed into the sample collection container.
- e. Shake the combined tubes, forcing the ag-lime core from the sampling tube into the sample collection container. Use a clean spatula or scraper to remove the ag-lime core that is left in the sampling tube. Also use the spatula to remove an ag-lime core from the sampling tube that is too wet to shake out of the sampling tube. In such cases the outer PVC tube may not need to be used to shake the ag-lime core from sampling tube. Make sure to close sample collection container between each ag-lime core collection.
- f. When ag-lime core (sample) collection is completed, clean sampling equipment. Again, at least 10 ag-lime cores must have been collected from each ag-lime storage area. Close/secure sample collection container. Make sure the sample collection/analysis request report is completed.

Bag and Containerized Package (Ton Totes, etc.) Sampling Method:

- a. Using an official bag sampling tube randomly collect one (1) core per every ten (10) bags/ container up to a maximum of twenty (20) cores for the entire composite sample.
- b. Sample bags by laying each bag horizontally and removing the core diagonally from end to end of each bag as illustrated in Figure 3a. Sample containerized packages by inserting the sampling tube into the topside, and proceeding in a downward/ diagonal direction into the package as illustrated in Figure 3b.

FIGURE 3a & 3b
Sampling bags and containerized packages. Arrows indicating direction of sample core collection.

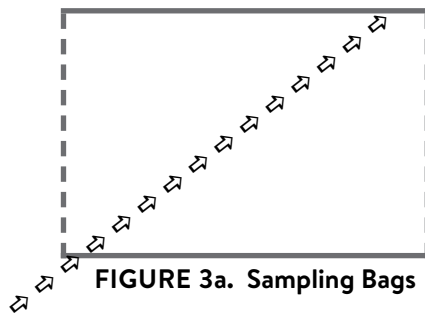


FIGURE 3a. Sampling Bags

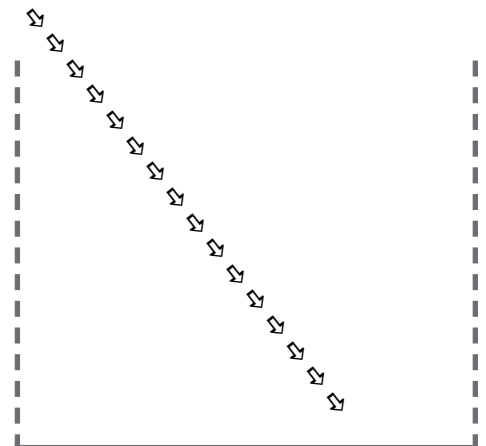


FIGURE 3b. Sampling Bags

“Pressed” Industrial/Municipal By-Product Ag-Lime Sampling Method

- a. Collect ten (10) chunks (subsamples) of the pressed ag-lime from the ag-lime storage area.
- b. Place each subsample in a labeled, air/water tight sample collection container (i.e. plastic container or bag-zip lock bag preferred).
- c. Once sample collection is completed clean sampling equipment. Close/secure sample collection container. Make sure all appropriate sample collection/analysis request reports is completed.

Want More Information or Have Questions

Contact the Minnesota Department of Agriculture at 651-201-6275 or email: Ed.Kaiser@state.mn.us.