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INSTRUCTIONS FOR USE OF STAR CLEAR PVC CANISTER SAMPLER

To avoid injury to the operator or damage to the cutting tip, either the protective end-cap should be slid over the cutting tip or the push-out rod should be inserted into the probe. The push-out rod can be held in place with the black elastic by sliding the loop in the end of the elastic over the end of the push-out rod.

To Operate

This sampler is designed so you can collect a sample in the canister, or you can remove the bottom cap and attach a bag using the elastic supplied. In this case, the sample will fall directly into the bag instead of being held in the canister. If using a bag, we recommend that you turn the canister upside down and rest it on the handle. Slide the bag over the bottom end of the canister so that the top of the bag is beyond the brown rubber elastic. Wrap the black elastic around the canister on top of the bag and on top of the brown rubber elastic. Pull snug and secure in place with the Velcro. Flip the canister right-side-up. If you are using the bottom canister cap instead of a bag, wrap the black elastic around the canister and secure it with the Velcro so it does not interfere with taking samples.

The bottom cap is held in place with a spring pin. To remove the cap, pull the pin up and turn 90 degrees so it remains dis-engaged. To attach the cap, slide it over the PVC canister, turn the pin 90 degrees so it engages and then turn the cap until you hear the pin click into a hole.

The top cap handle can be used for carrying the sampler. If you need to remove the top cap, pull the spring pin out and turn 90 degrees so it remains dis-engaged, then pull the cap off. The handle is designed so you can turn the sampler upside down and rest it on the top cap handle when you remove the bottom cap.

Securely attach the sampler to an appropriate ½" (13mm) drill (recommended power of 18 Volts or greater). Make sure the drill chuck is tight to avoid "rounding off" the drill drive attachment. **TO AVOID BENDING THE PROBE**, always hold the drill in line with the direction of the probe. Do not allow the weight of the drill to "hang" on the probe at any time. Place the cutting tip on the round face of round bales or at the end of square bales. Drive the sampler into the bale by applying steady pressure with the drill. When you reach the depth of sample you want to take, reverse the drive to extract the probe from the bale. **Do not rotate the probe at a high speed as this creates excessive heat at the cutting tip which can cause a fire hazard.**

For best operation, push the sample core into the collection canister after each bale using the push-out rod. **Always keep the foam hand protector between your hand and the cutting tip.** We recommend using the short end of the push-out rod first. This gives you the maximum control while starting to remove the sample core. After the initial push, you should flip the push-out rod over and push the sample into the canister. Continue in this manner until you have taken a representative sample of the hay. Turn the canister upside down and remove the

bottom cap. Slide a bag over the open end and while holding the bag around the canister with both hands, turn the canister right-side-up to empty the contents into the bag. Naturally, if you had already attached the bag prior to taking your samples, you simply have to remove the bag.

The cutting tip must be kept sharp in order to take a representative sample.

The tip can be sharpened several times before it will need to be replaced. To replace the cutting tip, remove the set screw with an Allen key and pull the tip out with pliers. Insert the new tip and secure it with a set screw.

Sharpening Instructions

- a) **Use a flat, fine (smooth) file; do not use a round or coarse file.**
- b) Place the probe with cutting tip in a vice and gently file towards the cutting edge, making sure to follow the contours on the cutting tip.
- c) Only a few filing strokes per contour are necessary to sharpen the cutting tip.

Note: If the cutting edge is filed smooth, round or into deep grooves the cutting efficiency will be ruined. DO NOT use coarse, chain-saw, rat-tail files or a grinder to sharpen the tip.

Additional sharpening instructions are on the web site under the TECHNICAL section.

This sampler is designed to take samples from high moisture bales as well as dry bales. The canister will hold a sample that is usually large enough to submit for analyses. BE SURE TO CHECK WITH YOUR LAB REGARDING THE SIZE OF SAMPLE REQUIRED FOR THE TYPE OF ANALYSES YOU WANT.

RECOMMENDATIONS

We recommend that you probe a sample bale the full 24" (61cm) depth. Visually inspect the sample to see that it is consistent throughout the full depth. Discard this sample. Repeat this with enough bales until you are satisfied that you are dealing with a uniform group of bales.

Begin taking your composite sample by probing into a bale about 14" (36cm) deep. Push the sample into the canister after probing each bale. If you don't push the sample into the canister after each bale, the sample may pack in the probe and you may find it difficult to push them into the canister. The canister will hold samples from about 20 bales when you take samples about 14" (36cm) deep. This will give you a good representative sample of a uniform lot of hay. The reason we do not recommend taking samples the full depth of 24" (61cm) is because the canister will only hold about 12 samples which is not enough to meet the recommended number of 20 bales per lot of hay. Studies have shown that samples taken 12- 16" (31-41cm) deep will give you a representative sample. It is generally better to take samples 14" (36cm) deep from 20 bales than samples 24" (61cm) deep from only 12 bales.

When sampling for genetic testing, we recommend taking shorter samples of about 6" (15cm) depth so you can take samples from at least 40 bales from a lot of hay.

This sampler has been designed to be very strong so it will handle a lot of use. It has a smooth interior so it can be cleaned easily. You may notice some staining of the bearings from the juices in the high moisture forage. The bearings are sealed, and this will not affect the use of the sampler.



Clear PVC Canister in storage mode.

The black elastic is attached to the canister and includes a loop on the end to hold the push-out rod in place enabling it to be stored inside the probe protecting the cutting tip and allowing easy storage and transportation.



Clear PVC Canister in sampling mode.

Note that the black elastic is easily wrapped around the canister and held in place with Velcro.



Note: The tool can be used with or without a bag. When using a bag, wrap the black elastic strap around the bag to hold it in place. (See picture below).

After each bale is probed, clear the sample from the probe using the supplied push-out rod. In wet hay, we recommend using the short end first for safety and control in clearing the probe. Once the sample has moved further into the probe, turn the push-out rod around and continue clearing the probe with the longer end. **Please ensure that the safety ball is always between your hand and cutting tip to prevent injury.**



Sample probing:

For checking bale quality, we recommend going in the full length of the probe (65cm/25.5"), visually check the sample and discard sample.

For collecting a composite sample for testing purposes, we recommend going into a bale 36cm/14", allowing 20 samples to be held in the canister.