



FOOD SAFETY LAB / MILK QUALITY
IMPROVEMENT PROGRAM
Standard Operating Procedure



Title: **Determination of Silage pH**

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SECTION 1 INTRODUCTION

1.1 Purpose

The purpose of this document is to set forth standard guidelines for performing pH measurements on silage.

1.2 Scope

This SOP applies to the Food Safety Lab and the Milk Quality Improvement Program. The protocols may also be used by laboratory members from other locations.

1.3 Definitions

DI water – Deionized water

Silage – Refers to all types of fermented animal feed including, but not limited to, corn silage and hay silage.

1.4 Safety

Wear gloves, safety glasses, and other appropriate personal protective equipment for the entire procedure.



SECTION 2 MATERIALS

- Balance
- DI Water
- pH Meter
- Stomacher and stomacher bags
- Beaker



SECTION 3 PROCEDURES

3.1 Sample Preparation

- 3.1.1. Weigh 5g of silage into a stomacher bag.
- 3.1.2. Add 45mL of DI water to the silage in the stomacher bag.
- 3.1.3. Stomach the silage and DI water at 230 rpm for 60 seconds.
- 3.1.4. Allow the stomached silage to sit undisturbed for 30 minutes prior to taking pH measurement

3.2 pH Measurement

- 3.2.1. Take pH measurement of silage slurry according to the pH meter manufacturer's instructions.



SECTION 4 TROUBLESHOOTING

SECTION 5 REFERENCES

SECTION 6 METHOD VERSION & CHANGES

| VERSION | DATE | EDITOR | COMMENTS |
|----------------|-------------|---------------|---|
| Version 1 | 11/5/2014 | Nicole | Original SOP |
| Version 2 | 4/16/2020 | Rachel E. | Formatting changes to fit new SOP format. Grammatical errors were fixed in the Procedures. |
| Version 3 | | | |