TEACHING CHARCUTERIE

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Agriculture and Natural Resources
UCCE Master Food Preserver Program

WHY SHOULD WE TEACH MEAT PRESERVATION?

- Historical technique
- Popularity
- Involves techniques we already know
- There is public interest in the subject
- Reaches a different demographic. Men

WHAT IS A CHARCUTERIE PRODUCT?

- It's a meat product, usually pork, treated with salt and nitrites and bacterial cultures to produce a shelf stable edible product without cooking.

- Examples: salami, pepperoni, mortadella, coppa, pancetta, bacon, ham, hundreds of sausages representing almost every western culture.

CHARCUTERIE HISTORY

- It starts with the pig
- The pig is unsuited for nomad life, they don't do well being herded
- An old technique dating back two thousand years to the Gauls making hams that were sent to Rome
- Many people did not have private kitchens and had to purchase ready made dishes
- In the 17th century in France the Charcutiers were granted the right all cuts of cooked pork and fat
- Charcuterie declined in popularity with the development of refrigeration

PRODUCTS AND TECHNIQUES EXPLORED

Products

- Whole Meat Muscles
- Ground Meat Sausage

Technique

- Fermenting
- Brining
- Curing
- Drying
- Smoking

You need to know these things to effectively prepare a class on Charcuterie

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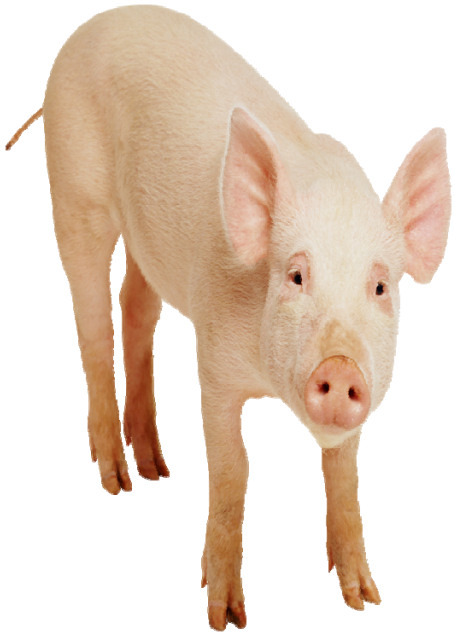
THE ~~PIG~~ ELEPHANT IN THE ROOM

How can you take raw meat and eat it 3 months later without cooking it?



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THE PROBLEM:

Getting the student to understand that the **final** product is still raw meat and safe

WHAT DO WE ALREADY KNOW ?

What keeps food from spoiling?

THE ANSWER

- Remove water available to bacteria (**Salt**)
- Create an acidified environment where bacteria cannot grow (**Cultures**)
- Introduce an antibacterial agent (**Nitrites**)

REMOVE WATER OTHERWISE AVAILABLE TO BACTERIA

SALT

Salt will penetrate the meat and occupy water that would be used by the bacteria

CREATE AN ACIDIFIED ENVIRONMENT

Fermentation/Cultures

Fermentation converts meat sugars into lactic acid

When the pH drops below 4.5 the meat is safe

ANTI BACTERIAL AGENT

Nitrates and Nitrites

Added to the meat product the Nitrites will keep the bacteria away while the salt and fermentation acid take hold

MORE ABOUT NITRITES AND NITRATES

- Aka Prague and Pink Salts No. 1 and No.2
- Nitrites are short acting (No.1)
- Nitrates are slow acting (No.2)
  - Nitrates break down over time into nitrites

2 GENERAL TYPES OF CHARCUTERIE PRODUCTS

Ground meat and whole muscle

- Ground meats are that inoculated with a culture, and mixed with spices, salt and nitrites and allowed to fermented in a warm environment, then moved to a cooler space and dried and aged
- Whole muscle cuts are treated with spices, salt, nitrates and cure in a cool environment, then dried
- Both products are optionally smoked

SAUSAGE & FERMENTATION

- While the ground meat is susceptible to spoilage the salt and nitrates protect it.
- Even though it is fermenting in a warm environment 70°F the culture is rapidly producing lactic acid making bacteria growth difficult.
- After 48 to 72 hours the fermentation process ends and the meat ages in a cooler place further slowing bacteria growth. But the salt and nitrates are still on the job protecting against spoilage.

MUSCLE MEATS

- Cultures are not incorporated into the muscle like ground meat
- Cooler temperatures are required to keep the bacteria from replicating
- It takes weeks for the spices, salt and nitrates to penetrate the deep muscle so cold temperatures, (refrigerator) are required
- When the penetration process (curing) is complete the drying process takes starts
- It’s finished drying when the meat loses 30% of its weight

EQUIPMENT TO BE FAMILIAR WITH

- Meat Grinder
- Meat Curing Chamber
- Cold Smoker
- Slicer
- Casings
- Cultures
- Spices
- Pink Salts

HOW TO GET STARTED

- Get a grinder and make some sausage
- Get comfortable grinding meat, mixing spices, and casing
- Read up on the topic
- Research meat chambers and cold smokers
  - Build one

BUT IT'S TOO EXPENSIVE!

- The equipment to preserve food costs money
- Pressure canners, jars, dehydrators, tools all cost money
- There are costs to go high tech. Not much to go natural.
- If you commit it will involve some start-up costs
  - $200 to $300

SMOKE GETS IN YOUR EYES

- Smoke doesn’t cook meat
- Smoke only flavors and dries
- If you hot smoke you have cooked meat, not CHARCUTERIE

RESOURCES

- The Art of Making Fermented Sausages, By Stanley Marianski, Adam Marianski. Book Magic, LLC. Third Edition 2015. Pages 275.
- Make Your Own Salami, Pancetta, Coppa, Prosciutto, and More. Dry Curing Pork, By Hector Kent. The Country Man Press. Copyright 2014. Pages 183
- The River Cottage Curing & Smoking Hand Book, By Stephen Lamb. 10 Speed Press. Pages 254. Copyright 2014.
- The Art of Making Sausages, Pates, and Other Charcuterie, By Jane Grigson. Alfred A. Knopf. Copyright 1967. Pages 349.
- Sausagemaker.com (Great resource for all things sausage)

AVAILABLE MFP CLASS MATERIALS

The following documents, developed for Charcuterie Classes conducted in Amador County, will be uploaded and available on the Amador/Calaveras County MFP site.

- Charcuterie Basics (Process Handout), includes instruction on how to:
  - Ferment, Check pH, Cultures, Curing, Nitrites & Nitrates, Brining, Smoking, Ingredients, Casings, Equipment,
- Charcuterie Recipes, includes
  - Smoked Spicy Coppa, Dry Pepperoni, Smoked Salmon

BONUS MATERIAL

Materials and Equipment

Cold smoker

- Interior discolored by smoke
- Ceramic pot holding smoker tray
- Note inlet and exhaust

Cold Smoker

- Interior air in-let with smoker tray for pellets

Cold Smoker

- Exhaust vent with computer low speed fan

Meat Locker

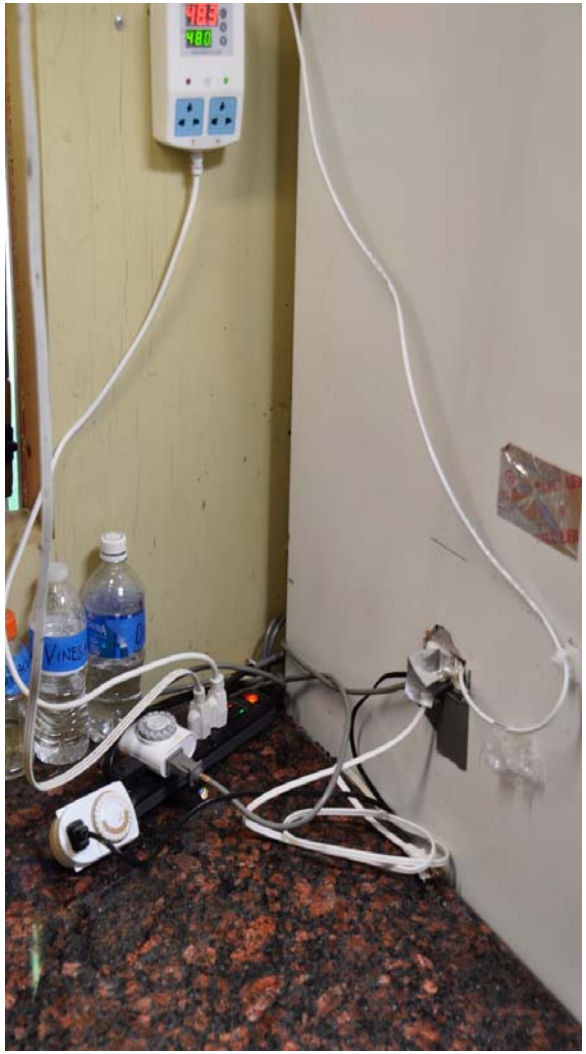
- Craigslist Refrigerator

Meat locker Interior

- Humidifier & fan
- Probe
- Lonely pepperoni
- Hooks
- Heat light
- Scale

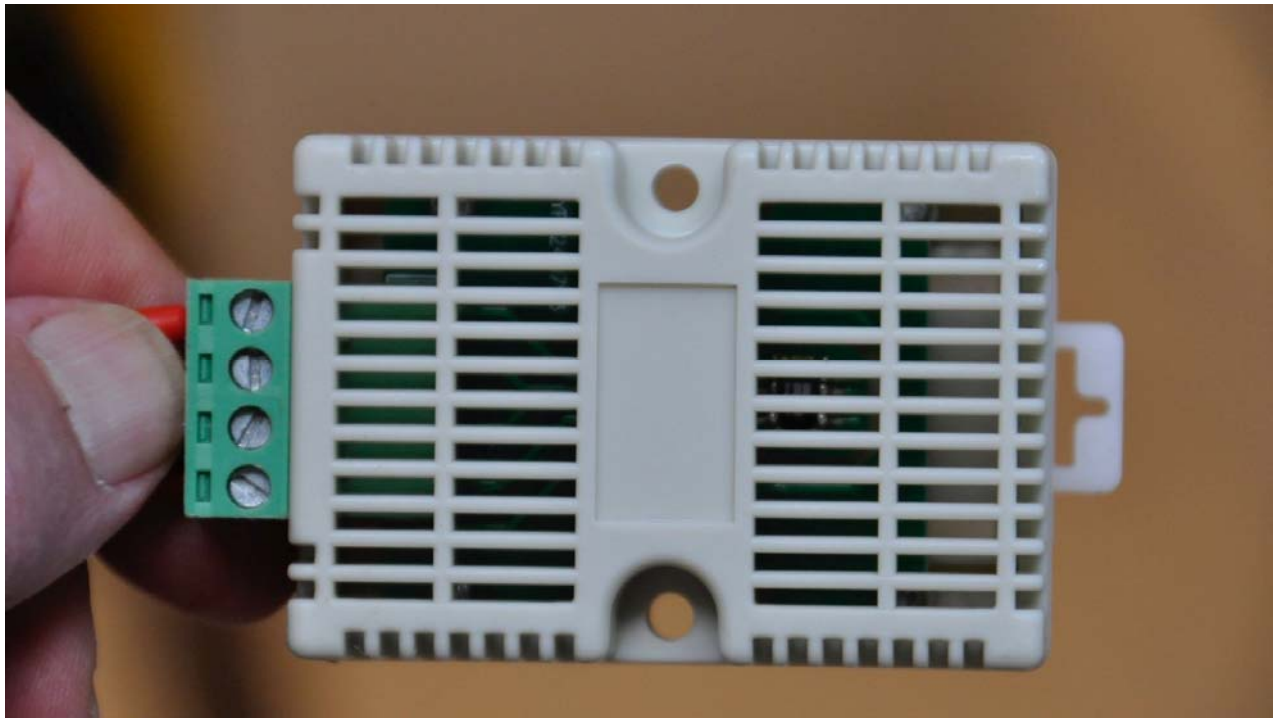
Control Center

- Fan and light timer
- Power for fridge, controller, heat light, humidifier
- Note hole where leads go into the box



Locker Temp/Humidify Controller

- Plugs turn on-off the refrigerator or humidifier at pre set levels
- (Green) Light indicates power



Probe inside the refer measures humidity and temperature and signals the controller to turn on or off

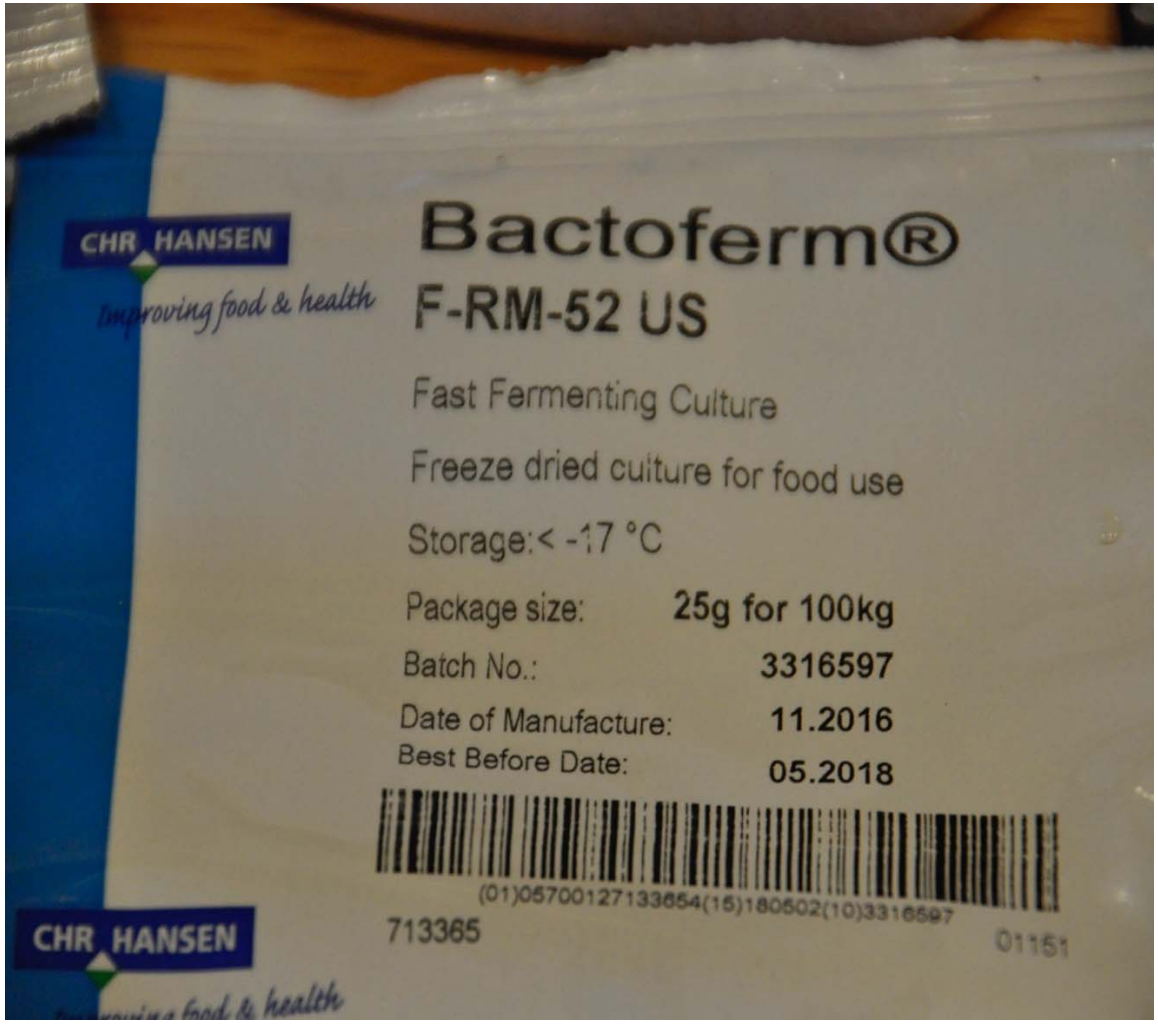
SCALE

- Essential to knowing when the meat is done!

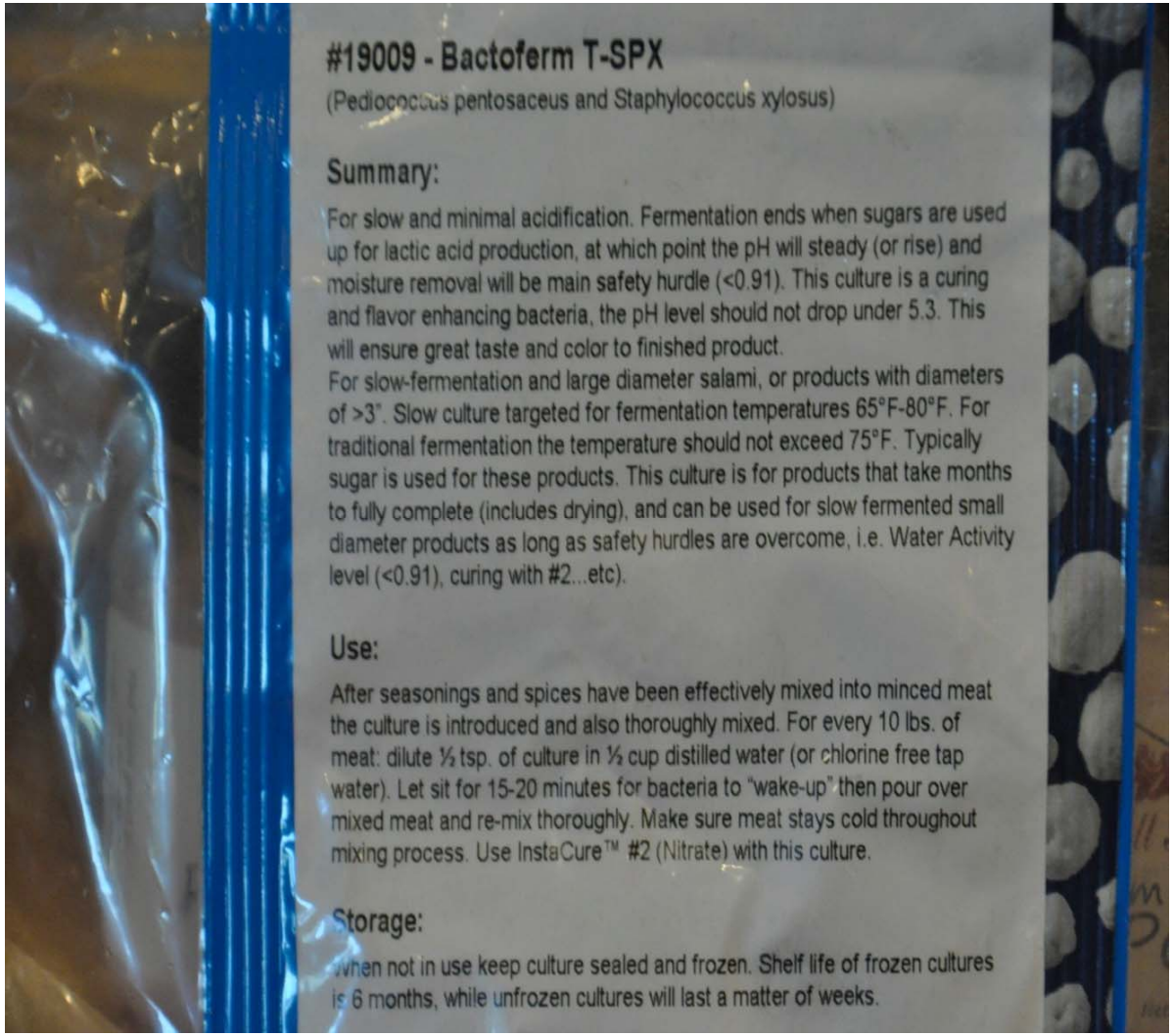
Materials

- Tools of the trade

Culture Packs



Good Information



#19009 - Bactoferm T-SPX

(Pediococcus pentosaceus and Staphylococcus xylosus)

Summary:

For slow and minimal acidification. Fermentation ends when sugars are used up for lactic acid production, at which point the pH will steady (or rise) and moisture removal will be main safety hurdle (<0.91). This culture is a curing and flavor enhancing bacteria, the pH level should not drop under 5.3. This will ensure great taste and color to finished product.
For slow-fermentation and large diameter salami, or products with diameters of >3". Slow culture targeted for fermentation temperatures 65°F-80°F. For traditional fermentation the temperature should not exceed 75°F. Typically sugar is used for these products. This culture is for products that take months to fully complete (includes drying), and can be used for slow fermented small diameter products as long as safety hurdles are overcome, i.e. Water Activity level (<0.91), curing with #2...etc).

Use:

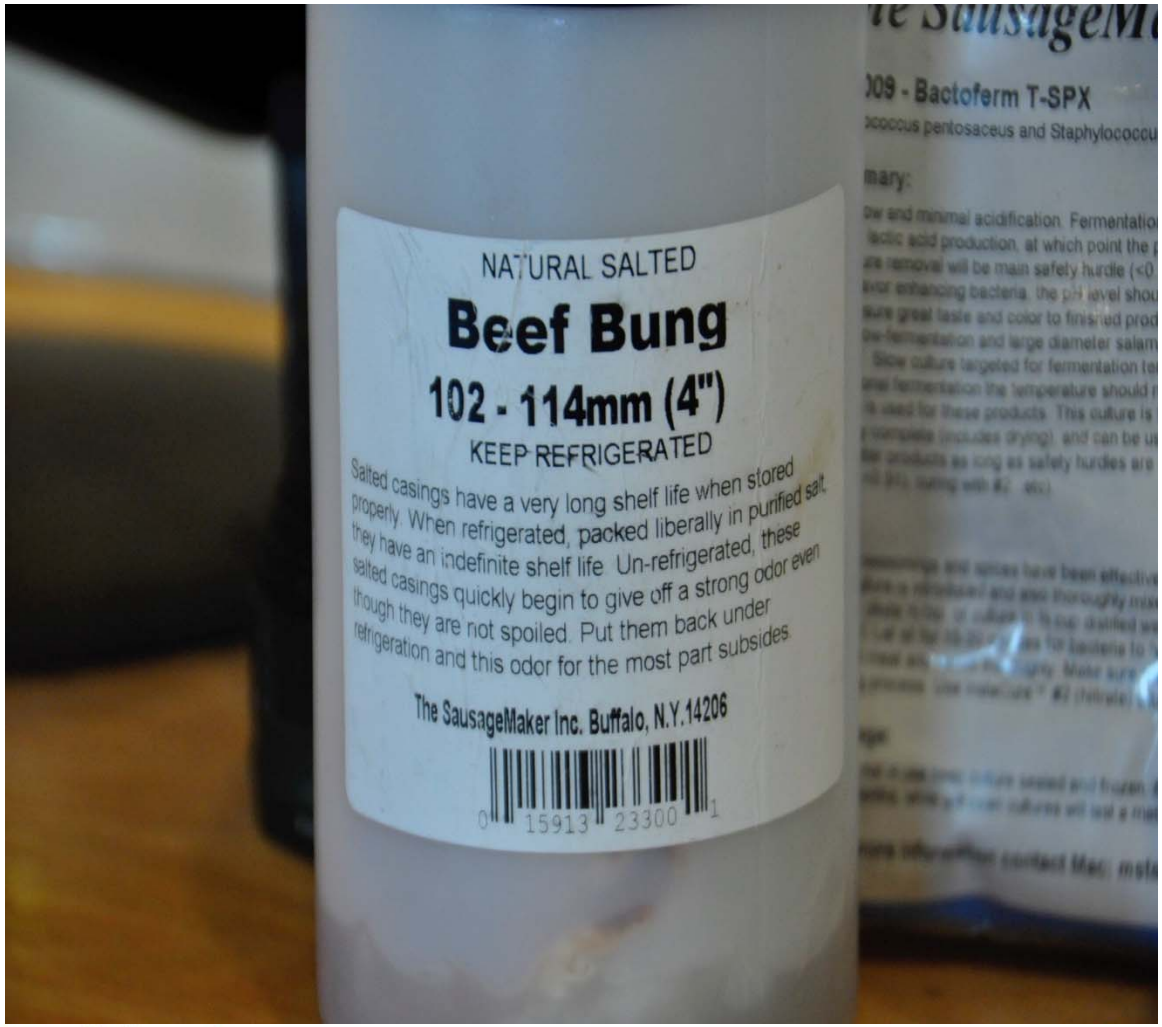
After seasonings and spices have been effectively mixed into minced meat the culture is introduced and also thoroughly mixed. For every 10 lbs. of meat: dilute ½ tsp. of culture in ½ cup distilled water (or chlorine free tap water). Let sit for 15-20 minutes for bacteria to "wake-up" then pour over mixed meat and re-mix thoroughly. Make sure meat stays cold throughout mixing process. Use InstaCure™ #2 (Nitrate) with this culture.

Storage:

When not in use keep culture sealed and frozen. Shelf life of frozen cultures is 6 months, while unfrozen cultures will last a matter of weeks.

Pink Salt

- Look the same, but very different


NATURAL SALTED
Beef Bung
102 - 114mm (4")
KEEP REFRIGERATED
Salted casings have a very long shelf life when stored properly. When refrigerated, packed liberally in purified salt, they have an indefinite shelf life. Un-refrigerated, these salted casings quickly begin to give off a strong odor even though they are not spoiled. Put them back under refrigeration and this odor for the most part subsides.
The SausageMaker Inc. Buffalo, N.Y.14206
0 15913 23300 1
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THE END

Questions??

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