



Possible Beef and Veal in the Classroom Lesson Plans and Ideas:

High-level Beef Overview Lesson:

- We learned about breaking down the carcass into the primals/sub- primals, cooking methods to use for the sub- primals, different cooking temperatures, dry aging, cleaning the meat with minimal waste, locomotion, and suspension muscle (highlight tougher cuts vs. tender cuts), expensive vs. in- expensive cuts, and why beef is #1 on the menu in a restaurant.
- We looked at how different parts of the animal are used differently, based on the anatomy and muscle structure. We used the tougher cuts to prepare moist heat preparations, as well as for grinding and processing. We used the tender portions to prepare dishes using dry heat methods such as grilling, searing, stir frying, etc.

Beef Ageing Experiment:

- Ageing experiment with three ribeye's purchased. All were weighed for starting weights and processed accordingly. The as purchased wet aged ribeye was cut into 16 oz. steaks, cryovaced and frozen until the end of the experiment. The second ribeye was completely encased in salted butter and held in the walk-in for 77 days. The third ribeye was placed into an Umai bag which is used to garner dry aging while using a standard walk- in refrigerator. It was also held for 77 days. Each week the butter aged, and dry aging cuts of beef were weighed for loss, visually inspected for changes (dry age more so, as the butter aged was not visible) of color and texture. Students performed all aspects of the evaluation process and specifically enjoyed the change in texture of the dry age and its deepening of red color as the evaporation took place. Upon completion of the 77 days the beef was removed from the butter and the umai bag and weighed for the final time. The dry age lost a total of just under 2 lbs. and the butter lost under 4 oz. We then fabricated the Ribeyes by removing and calculating waste that led to comparing our as purchased cost to our edible portion cost. We then used sous vide to prepare the steaks to a perfect medium and compared flavor profiles, color, aromas, and texture. We also explained our experiment during our end of semester grand buffet in our garde manger class to educate our guests on our findings as well as gave them the opportunity to taste and compare for themselves.

Fabrication Exercise:

- Purchased a variety of cuts for students to learn how to fabricate into smaller serving-size portions. We selected items that students will commonly be working with in the restaurant industry. We chose items that have different marbling and tenderness so students could learn about different cooking techniques to apply. Students fabricated the meat cuts, conducted yield tests, figured out pricing per portion for a selected recipe, and prepared the recipe.
- They were able to understand how to utilize trim to not only incorporate into items such as basic ground and stew meat but to also utilize the usable trim to make opportunity dishes for creative



meals. They were able to also utilize the fat deposits trimmed to render beef tallow and how to use it not only as a cooking medium but also as an ingredient unto itself.

- A main focus was also put on the financial benefits of fabricating cuts from whole primal pieces.

Handling and Cooking Exercise:

- Receive three lessons directly related to handling and cooking beef and veal: dry heat cookery, moist heat cookery, and Beef & Veal. The Dry and Moist Heat Cookery lessons focus on muscle composition from beef cattle, hogs, and lamb, focusing on which primal parts are best suited for dry heat and moist heat cookery. During the Beef & Veal class, students learn the primal parts of beef and veal, including sub-prime and retail cuts. Students receive hands on instruction with breaking down a beef rib bone-in primal. They fabricated steaks, short ribs, cap, and used left over parts for ground beef. From the bones, they made beef stock. The lecture included information about beef cattle (I'm always surprised when students do not know the difference between beef cattle and dairy cattle) evolution, general information on the beef industry (including diet of the animal, processing weight, fabrication, and USDA inspection and grading services), muscle composition (conformation and marbling), and dry heat and moist heat cookery. The Beef & Veal lesson included a butchering component and cooking component. Included in the cooking lesson, which focused on techniques, was seasoning, carry-over cooking & resting, evaluating doneness and desired service temps, saucing/sauce pairing, and service. For the Beef & Veal in the Classroom grant, we spent our funds on the beef rib bone in primal, which included the short ribs. Additionally, we purchased veal shanks for the lesson. All of the recipes including meat were made from the rib primal, with the exception of the veal shank. Students made steak au poivre, braised veal shank, grilled ribeye cap, burgers, bone-in ribeye steak, braised beef short ribs, Espagnole, pan sauce, beef stock, and various sides.

Plating and Pairing:

- Students were taught various ways of carving and plating finished products. Also, they were taught how to pair the products with other foods and how to incorporate leftovers into new dishes.
- Find more information regarding flavor trends
<https://www.beefitswhatsfordinner.com/foodservice/menu-concepts-diner-insights/exploring-current-flavor-trends>

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