USMARC Slice Shear Force Procedure for Beef Vastus lateralis (VL)

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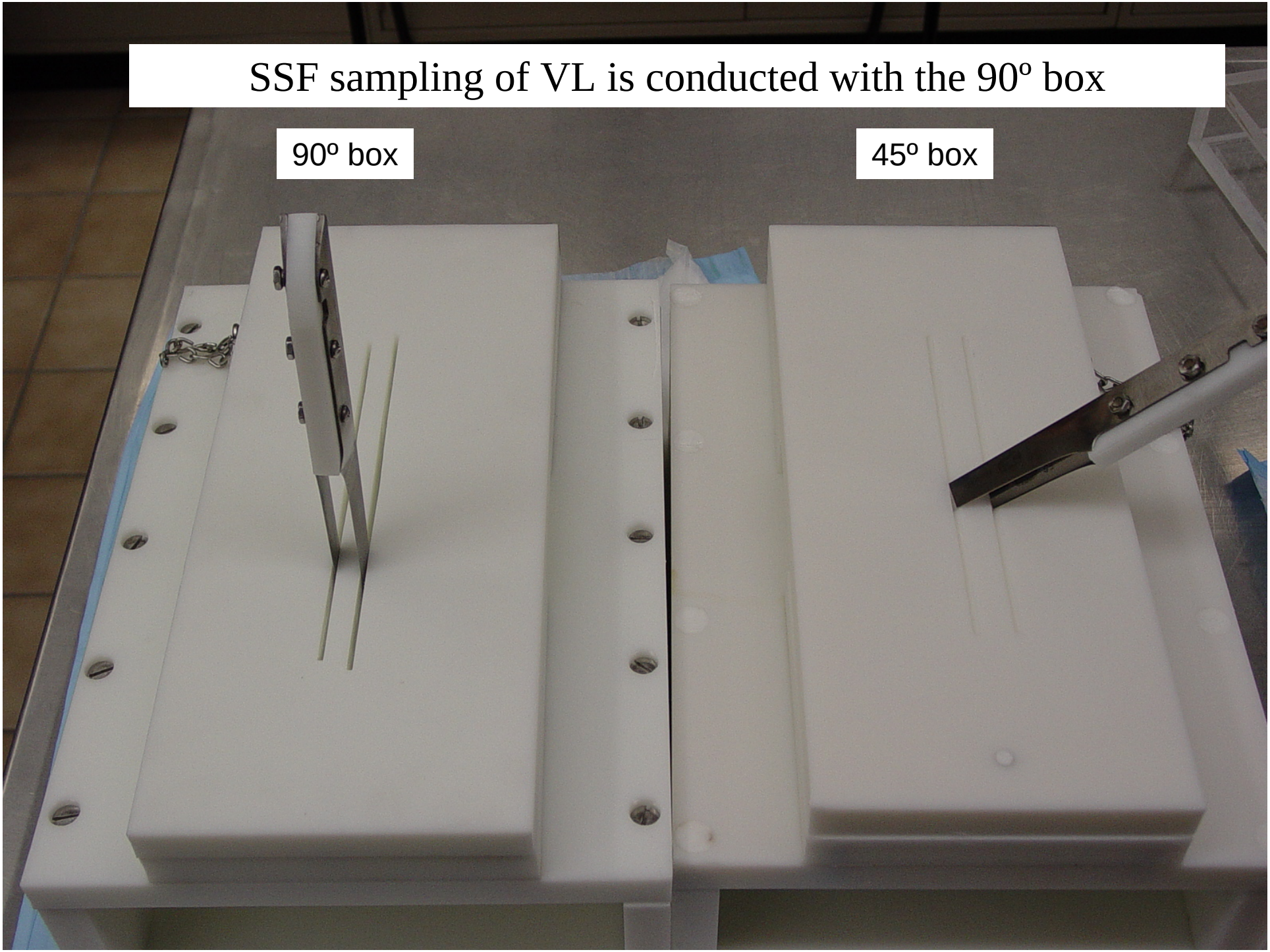
SSF sampling of VL is conducted with the 90º box
90º box
45º box

On the following slides, a picture of a frozen steak is shown rather than a cooked steak. This was done in order to more clearly show steak orientation. But, slice shear force measurement is conducted on cooked steaks. Steaks are sampled and slice shear force is measured immediately after completion of cooking.

Two approaches are presented for VL.

The first approach allows for the best evaluation of SSF, but might not be suitable in many situations. Steaks are cut perpendicular to the fiber orientation.

The second approach is more easily implemented but does not allow for sampling parallel to the muscle fiber orientation. Steaks are cut conventionally.

Vastus lateralis (VL) - Right

Steaks are cut perpendicular to the fiber orientation by passing the cut through the saw at an angle.

Vastus lateralis (VL) - Left

Orient the steak with the blue mark to the top right. Obtain one or two 5-cm-long sections per steak. Using the 90 degree box, obtain up to three slices from each section.

Vastus lateralis (VL)

Vastus lateralis steaks were marked in the top right corner (based on fiber angle slanting down left at the top left corner, right side being the wider end, and looked for silver skin on top) before cooking. The first cut was on that right side. Two sets of 3 slices were taken when possible from the best 10 cm. The 5 cm piece was turned so that the top of the steak was now to the left. A slice was taken from the left, center and right of each 5 cm piece when possible. We used the 90 degree box. All slices were kept, then culled to 6 pieces. (If we had six samples, one piece of each slice was culled. Otherwise, additional pieces from some samples were also kept randomly.) .

Sample data sheet for VL SSF

Fresh_SSF_Data

Date	Yellow tag ID	Muscle	Location	Slice box	SSF	Notes	DPM
07/01/2009	2001	07_VL	071_Right_Top	90°			15
07/01/2009	2001	07_VL	072_Right_Center	90°			15
07/01/2009	2001	07_VL	073_Right_Bottom	90°			15
07/01/2009	2001	07_VL	074_Left_Top	90°			15
07/01/2009	2001	07_VL	075_Left_Center	90°			15
07/01/2009	2001	07_VL	076_Left_Bottom	90°			15
07/01/2009	2002	07_VL	071_Right_Top	90°			15
07/01/2009	2002	07_VL	072_Right_Center	90°			15
07/01/2009	2002	07_VL	073_Right_Bottom	90°			15
07/01/2009	2002	07_VL	074_Left_Top	90°			15
07/01/2009	2002	07_VL	075_Left_Center	90°			15
07/01/2009	2002	07_VL	076_Left_Bottom	90°			15
07/01/2009	2003	07_VL	071_Right_Top	90°			15
07/01/2009	2003	07_VL	072_Right_Center	90°			15
07/01/2009	2003	07_VL	073_Right_Bottom	90°			15
07/01/2009	2003	07_VL	074_Left_Top	90°			15
07/01/2009	2003	07_VL	075_Left_Center	90°			15
07/01/2009	2003	07_VL	076_Left_Bottom	90°			15
07/01/2009	2004	07_VL	071_Right_Top	90°			15
07/01/2009	2004	07_VL	072_Right_Center	90°			15
07/01/2009	2004	07_VL	073_Right_Bottom	90°			15
07/01/2009	2004	07_VL	074_Left_Top	90°			15
07/01/2009	2004	07_VL	075_Left_Center	90°			15
07/01/2009	2004	07_VL	076_Left_Bottom	90°			15
07/01/2009	2005	07_VL	071_Right_Top	90°			15
07/01/2009	2005	07_VL	072_Right_Center	90°			15
07/01/2009	2005	07_VL	073_Right_Bottom	90°			15
07/01/2009	2005	07_VL	074_Left_Top	90°			15
07/01/2009	2005	07_VL	075_Left_Center	90°			15
07/01/2009	2005	07_VL	076_Left_Bottom	90°			15