Title: Evaluating strength, sharpness, and detection of swine-use hypodermic needles – **NPB #13-055**

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Industry Summary: A previous study (circa 2000) investigated swine-use hypodermic needle strength and detection. At that time, needle detection equipment available at processing plants was entirely magnetic-based. Since this original study, processing plants have added X-Ray based technology. The purpose of this study was to determine state-of-the-industry needle strength and processing plant detection status. Strength quantification was conducted in the laboratory using identical testing equipment developed for the original circa 2000 study. Needle detection testing was investigated at five independent packing plants representing Iowa, Minnesota, and Nebraska. Needle strength and sharpness results were on-par with previous results, with very little new information gained. Detection testing measured from all needle manufacturers, needle orientation through the detector, detector technology, and processing plant indicated an overall average detection of 37.2% (464 detects/1248 passes). For all needles passed through magnetic-based detectors, a 21.4% (164/768) detection rate was measured. One particular needle tested in this study was manufactured to elicit a response through magnetic-based detectors, and its detection rate through magnetic-based detectors was 80.2% (77/96). If this particular needle was excluded from the data set, the remaining industry average detection through magnetic-based machines was 12.9% (87/672). The original study conducted in circa 2000, in a controlled laboratory setting, indicated a 14.9% detection rate for magnetic-based detectors. For all needles passed through X-Ray based technology from this current research, the overall detection rate was 62.5% (300/480).

Keywords: hypodermic needles, swine, metal detection, X-Ray, processing, physical hazards

Scientific Abstract: A follow-up study was conducted to determine the strength and detectability of swine-use needles. Strength quantification was conducted in the laboratory using identical testing equipment developed for a study conducted circa 2000. Detectability of needles was investigated at five independent packing plants; three in Iowa, one in Minnesota, and one in Nebraska. Needle strength results were on-par with previous results, with very little new information gained. Detection testing measured from all needle manufacturers, needle orientation through the detector, detector technology, and processing plant indicated an overall average detection of 37.2% (464 detects/1248 passes). For all needles passed through magnetic-based detectors, a 21.4% (164/768) detection rate was measured. One particular needle tested in this study was manufactured to elicit a response through magnetic-based machines, and its detection rate through magnetic-based detectors

was 80.2% (77/96). If this particular needle was excluded from the data set, the remaining industry average detection through magnetic-based machines was 12.9% (87/672). For all needles passed through X-Ray based technology, the overall detection rate was 62.5% (300/480).

Introduction: Hypodermic needle strength and detectability are important topics to the swine industry. A study on needle strength and detectability was conducted circa 2000, when detection of needles was limited to magnetic-based technology. This seminal study showed that needle breakage and subsequent tissue capture was occurring due to misuse (needle bends-straightened-reused, etc). Once embedded in the animal, and if that animal is sent for processing, the needle was then subjected to a magnetic-based detector. The stainless-steel composition of the needle, combined with magnetic-based technology, resulted in a detection rate of 14.9% (Hoff, 2001). Since this initial study, many processing facilities have installed X-Ray based technology to supplement magnetic-based detectors. There is a need for a follow-up study to investigate the current state-of-the-industry regarding needle strength and detectability. The prime objective of this research was to test needle detection at the processing plant, using detection technology available at each plant, and using a representative product effect present with each detector.

Hoff and Sundberg (1999) reported the breakage and deformation characteristics of hypodermic needles during static and dynamic testing, concluding that needle breakage was the result of needle straightening after permanent deformation, breaking with subsequent straightening events. Follow-up studies conducted by the PI (Hoff, 2000; Hoff, 2001) tested needle sharpness and needle fragment detection culminating in a nation-wide campaign "One is too many" (Vansickle, 2001) and a consumer's report guide for veterinary-use needles (Sundberg and Hoff, 2002). The overall conclusions from this work indicated that needle breakage was the result of needle misuse, and if fragments were retained in the carcass, very little chance of detection resulted with stainless steel needles and magnetic-based detection equipment available at the processors, at that time.

Hoff, S.J. and P. Sundberg. 1999. Breakage and Deformation Characteristics of Hypodermic Devices Under Static and Dynamic Loading. *American Journal of Veterinary Research* 60(3): 292-298.

Sundberg, P. and S.J. Hoff. 2002. Can your needles handle the pressure? National Hog Farmer Magazine, May 15, 2002.

Vansickle, J. 2001. Broken needles: One is too many. National Hog Farm Magazine, January 15, 2001.

Hoff, S.J. 2000. Developing Standardization Procedures & Conducting Product Testing for Veterinary-Use Hypodermic Devices, NPPC Project #00-146 Final Report.

Hoff, S.J. 2001. Developing Standardization Procedures and Conducting Product Testing for Veterinary-Use Hypodermic Devices, NPB Final Report, October 2001.

Objectives: The specific objectives of this research project were to;

1. Provide to the industry a complete document outlining ultimate static strength, static load-to-failure, and the failure modes for all veterinary-use hypodermic needles used in the United States. Testing will include 16, 18, 20, and 22 gauge needles varying from ½ to 2 inches in length and with all combinations of needles and hub material currently available,
2. Provide to the industry a complete document outlining ultimate dynamic failure modes for all veterinary-use hypodermic needles used in the United States. Testing will include 16, 18, 20, and 22 gauge needles varying from ½ to 2 inches in length and with all combinations of needles and hub material currently available,

3. Provide to the industry a complete document outlining sharpness characteristics for all veterinary-use hypodermic needles used in the United States. Testing will include 16, 18, 20, and 22 gauge needles with repeated puncture strength evaluations up to 30 uses per needle, and,
4. Using ¼-inch, ½-inch, and ¾-inch needle fragments from all 16, 18, 20, and 22 gauge needles tested, determine needle detectability as a function of needle fragment size and orientation embedded in a consistent cut of pork as it passes through magnetic-based and X-Ray-based detectors employed today in U.S. packing plants. This testing will be conducted on-site at packing plants.

Materials & Methods: Veterinary supply providers were identified and a supply of swine-use hypodermic needles was acquired. Needles that ranged in hub material, gauge, and length were purchased as available OTC. Needle manufacturers were not contacted directly. This procedure resulted in the supply of needles for testing as shown in Table 1.

Table 1. Needle manufacturers, brand names, hub material, gauge, and length secured for testing. The needle IDs assigned are used throughout this report.

Needle Details						Lengths by Gauge Acquired (inches)				
Manufacturer/Distributor	**Box Name**	**ID**	**Hub[&]**	**Man_Hub**	**Gauge**	**1/2**	**5/8**	**3/4**	**1**	**1 - 1/2**
Neogen Corporation	Ideal	IDL	BR	IDL_BR	16				x	x
SyrVet, Inc	Supervet	SYV	SS	SYV_SS	16	x			x	x
Neogen Corporation	IdealD3	ID3	UNA	ID3_SS	16				x	
SyrVet, Inc	Supervet	SYV	AL	SYV_AL	16				x	
Jorgensen Laboratories	JorVet Thunderbolt	JVT	AL	JVT_AL	16		x	x	x	x
Jorgensen Laboratories	JorVet	JVT	SS	JVT_SS	16	x			x	x
Neogen Corporation	Ideal	IDL	AL	IDL_AL	16				x	x
Becton, Dickinson and Company	BD PrecisionGlide	BD	PL	BD_PL	16				x	x
Henke Sass Wolf	FineJect	FJT	PL	FJT_PL	16				x	x
Japanese		JAP	PL	JAP_PL	16				x	x
Air-Tite Products Company, Inc.	Air-Tite	AIR	PL	AIR_PL	16				x	x
Neogen Corporation	Ideal	IDL	BR	IDL_BR	18	x			x	
SyrVet, Inc	Supervet	SYV	SS	SYV_SS	18	x			x	
Jorgensen Laboratories	JorVet Thunderbolt	JVT	AL	JVT_AL	18			x	x	x
Jorgensen Laboratories	JorVet	JVT	SS	JVT_SS	18	x			x	x
SyrVet, Inc	Supervet	SYV	AL	SYV_AL	18				x	x
Neogen Corporation	Ideal	IDL	AL	IDL_AL	18				x	x
Neogen Corporation	IdealD3	ID3	UNA	ID3_SS	18				x	
Nipro, Inc	Nipro	NPR	PL	NPR_PL	18				x	x
Med-Vet International	Oasis	OAS	PL	OAS_PL	18				x	x
Tyco Healthcare Group LP/Kendall	Monoject Veterinary	MON	PL	MON_PL	18				x	x
Air-Tite Products Company, Inc.	Air-Tite	AIR	PL	AIR_PL	18				x	x
Exelint International Co.	Excel	EXL	PL	EXL_PL	18				x	x
Terumo (Philippines) Corporation	Terumo	TER	PL	TER_PL	18				x	
Becton, Dickinson and Company	BD PrecisionGlide	BD	PL	BD_PL	18				x	x
Jorgensen Laboratories	JorVet Thunderbolt	JVT	AL	JVT_AL	20	x			x	
Neogen Corporation	Ideal	IDL	AL	IDL_AL	20				x	x
Jorgensen Laboratories	JorVet	JVT	SS	JVT_SS	20	x			x	x
SyrVet, Inc	Supervet	SYV	AL	SYV_AL	20				x	
Neogen Corporation	Ideal	IDL	BR	IDL_BR	20	x			x	
Med-Vet International	Oasis	OAS	PL	OAS_PL	20				x	x
Sherwood Medical	Monoject	MON	AL	MON_AL	20				x	
Covidien LLC	Monoject	MON	PL	MON_PL	20				x	
Nipro, Inc	Nipro	NPR	PL	NPR_PL	20				x	x
Becton, Dickinson and Company	BD PrecisionGlide	BD	PL	BD_PL	20				x	
Terumo (Philippines) Corporation	Terumo	TER	PL	TER_PL	20					x
Exelint International Co.	Excel	EXL	PL	EXL_PL	20	x			x	x
Air-Tite Products Company, Inc.	Air-Tite	AIR	PL	AIR_PL	20				x	x
Exelint International Co.	Excel	EXL	PL	EXL_PL	22				x	x
Becton, Dickinson and Company	BD PrecisionGlide	BD	PL	BD_PL	22				x	x
Med-Vet International	Oasis	OAS	PL	OAS_PL	22				x	x
Air-Tite Products Company, Inc.	Air-Tite	AIR	PL	AIR_PL	22				x	x

Tyco Healthcare Group LP/Kendall	Monoject Veterinary	MON	AL	MON_AL	22				**x**	**x**
Nipro, Inc	Nipro	NPR	PL	NPR_PL	22			**x**	**x**	**x**
Terumo (Philippines) Corporation	Terumo	TER	PL	TER_PL	22				**x**	**x**

& **BR**=brass composite, **SS**=stainless steel, **UNA**=unknown alloy, **AL**=aluminum, **PL**=plastic/polypropylene.

Procedures to Achieve Objective 1. *Provide to the industry a complete document outlining ultimate static strength, static load-to-failure, and the failure modes for all veterinary-use hypodermic needles used in the United States. Testing will include 16, 18, 20, and 22 gauge needles varying from ½ to 2 inches in length and with all combinations of needles and hub material currently available.*

Full-embedment static strength and tip-bending strength was measured using the custom designed test stand as shown in Figure 1. Needles from a lot of 100 were placed in a container with five needles randomly selected for full-embedment testing. This procedure was repeated for tip-bending testing. Failure modes were classified as hub fracture (HF), permanent hub deformation (PHD), and permanent needle deformation (PND). Full-embedment testing was conducted by placing a needle assembly in the test stand as shown in Figure 2, placing the load point 1 mm from the hub/cannula interface. A stepper motor was initiated and the load was allowed to commence fully through until the needle reached and exceeded its maximum load. The load-to-failure and failure mode was recorded. Failure mode was classified as permanent hub fracture (PHF), permanent hub deformation (PHD), and permanent needle deformation (PND). If a hub split or fractured in any way it was classified as PHF, whereas if the hub stretched to a permanent deformation without fracturing, it was classified as PHD. Tip bending was conducted by placing the load 1 mm in from the end of the bevel cut of the needle using 1 inch long needles as shown in Figure 3. Maximum load sustained and the failure mode was recorded.

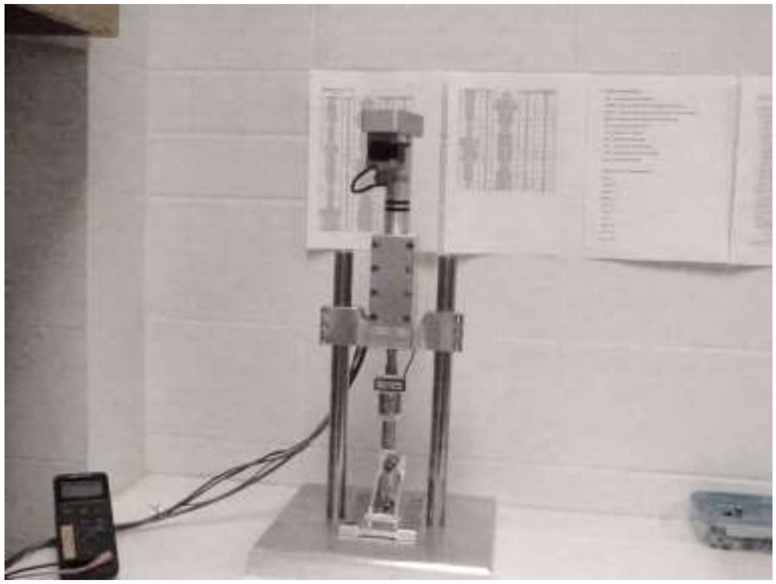


Figure 1. General purpose test stand developed specifically for testing needle static strength characteristics.

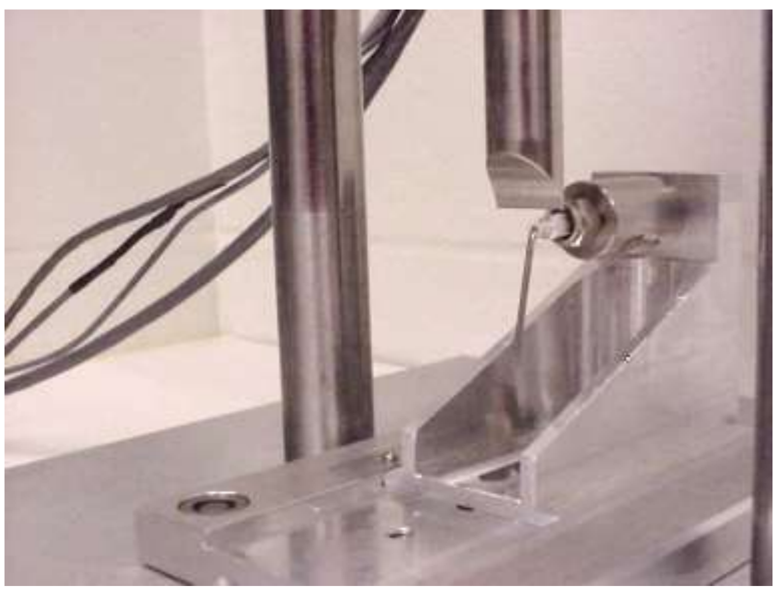


Figure 2. Set-up demonstrating full-embedment testing completed. Maximum load-to-failure recorded in pounds force (lb_f).

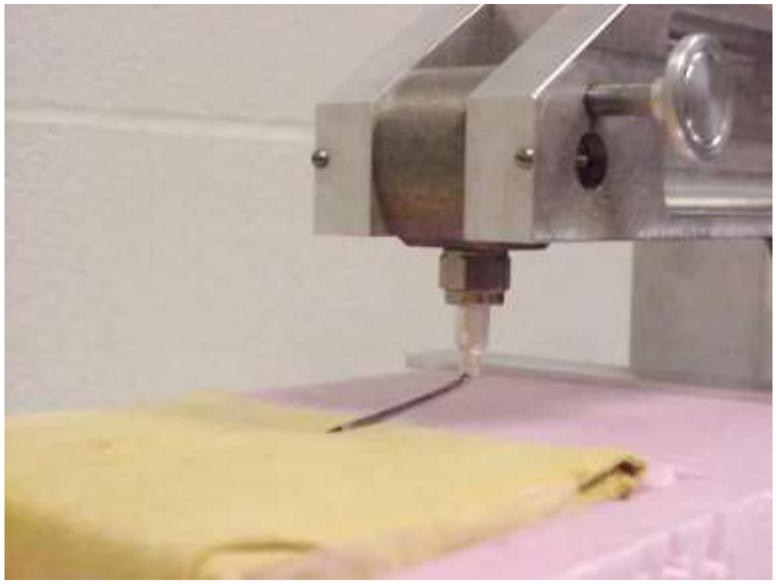
Figure 3. Set-up demonstrating tip-bending testing completed. Maximum load sustained recorded in pounds force (lb_f).

Procedures to Achieve Objective 2. *Provide to the industry a complete document outlining ultimate dynamic failure modes for all veterinary-use hypodermic needles used in the United States. Testing will include 16, 18, 20, and 22 gauge needles varying from ½ to 2 inches in length and with all combinations of needles and hub material currently available.*

Dynamic testing was completed with the Animal Movement Simulator (AMS) as shown in Figure 4a. Needles from a lot of 100 were placed in a container with six 16 gauge, eight 18 gauge, and ten 20 and 22 gauge needles randomly selected for testing. The difference in needle replications was due to the level of damage sustained with the AMS using heavier gauge needles. The procedure for testing was to place a needle assembly in the AMS in the pre-load configuration as shown in Figure 4a. A release lever was initiated that simultaneously allowed the needle assembly and simulated hide platform to travel, with the needle assembly traveling vertical down while the simulated hide traveled laterally forward. This action was designed to simulate needle damage that might occur if an unrestrained animal moves during the injection process. The simulated hide consisted of 1.5 inch rigid insulation wrapped in two layers of chamois. The simulated hide used was identical to the set-up used in the circa 2000 study. Failure modes were recorded, classified as with full-embedment testing with one additional category added, that being no visible damage (NVD). In NVD, the needle assembly fully stopped the AMS from moving after injection with the simulated hide leaving the needle assembly intact and without any apparent damage. The types of failures observed are shown in Figures 4b and 4c. Figure 4b shows a case with PHF typical of PL-based hubs and Figure 4c shows PND failure typical of some PL-based and most all metal-based hubs.

A

B



C

Figure 4. Set-up demonstrating dynamic testing using the specially developed Animal Movement Simulator (AMS). A=needle in position for testing, B,C=example needle/hub status after AMS action. When testing is initiated, the needle arm in (A) is forced vertically down while the platform holding the simulated hide moves forward. This action occurs simultaneously with one activation lever.

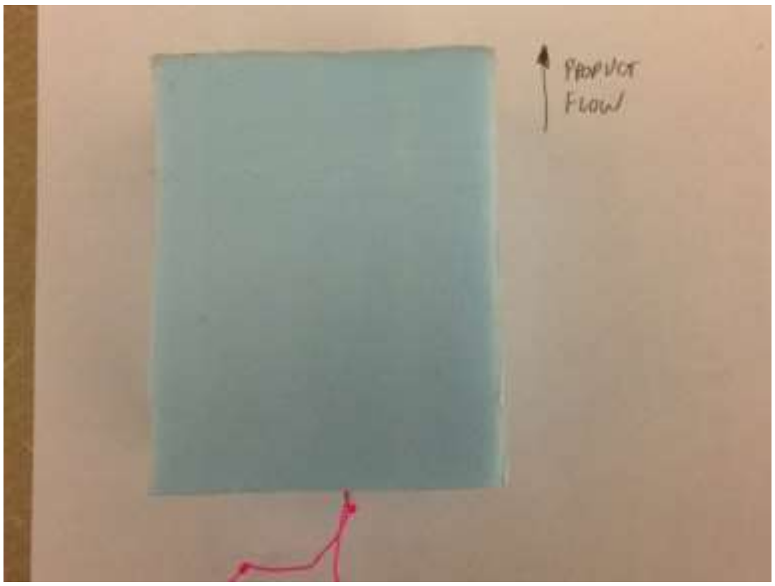
Procedures to Achieve Objective 3. *Provide to the industry a complete document outlining sharpness characteristics for all veterinary-use hypodermic needles used in the United States. Testing will include 16, 18, 20, and 22 gauge needles with repeated puncture strength evaluations up to 30 uses per needed*

Sharpness testing was measured with the test stand shown in Figure 5. Needles were randomly selected from the lots obtained. Needles were automatically allowed to puncture the simulated hide/tissue a total of 30 times to a depth of 0.90 inches. The hide was manually moved to a new location after each puncture. The maximum force required for each puncture was stored for later analysis. The simulated hide/tissue consisted of rigid blue-board insulation surrounded with two-layers of chamois identical to the configuration used for AMS testing.

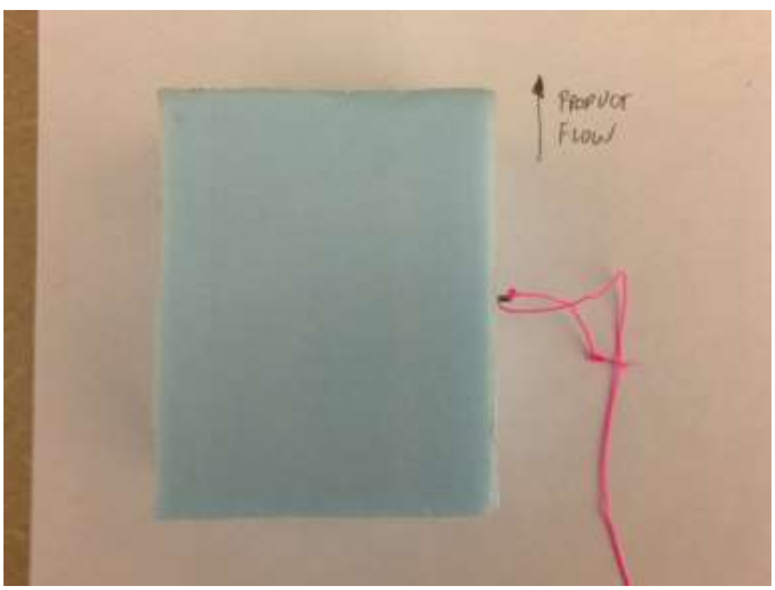
Figure 5. Set-up demonstrating sharpness testing. Maximum puncture force recorded for each injection recorded in pounds force (lb_f).

Procedures to Achieve Objective 4. *Using ¼-inch, ½-inch, and ¾-inch needle fragments from all 16, 18, 20, and 22 gauge needles tested, determine needle detectability as a function of needle fragment size and orientation embedded in a consistent cut of pork as it passes through magnetic-based and X-Ray-based detectors employed today in U.S. packing plants. This testing will be conducted on-site at packing plants*

All detection testing was conducted at processing plants within active processing lines. Testing was either conducted within a normal shift or during morning and noon breaks. The procedure for detection testing was to first contact the QC/QA person in charge of verifying detector performance. An informational meeting was then established to explain the purpose of this study, and to plan for testing. During subsequent plant trips, detection testing was completed using a combination of ISU and plant personnel. Product lines using both magnetic and X-Ray detectors were selected for testing. Prior to testing a detector at a particular product line, a plant employee was asked to randomly select a product for testing. This product was then used for all needles tested for this particular detector and product line. Needle fragments (¾" long, 16 gauge) were placed in the product, in sequence at the orientations shown in Figure 6. Three needle orientations through the aperture of a detector were tested, labeled as horizontal back (HB; Figure 6a), horizontal side (HS; Figure 6b), and vertical middle (VM; Figure 6c). Two needles from a lot of 100 were selected for testing, for each needle manufacturer tested. These two needles per manufacturer were used in all testing at all processing plants. Two passes for each needle within each manufacturer and orientation through the detector were used. A record was maintained of X=detection and 0=not detected. The detections reported in this study should be considered the highest potential for detection since the heaviest gauge needle was used, at a substantial length of ¾". The original intent was to test 18, 20, and 22 gauge needles, in addition to the tested 16 gauge needles, in increments of ¼", ½", and ¾" but logistically this was not possible for two reasons. First, the needle being tested in each product needed to be moved between orientations. This process was risky for smaller fragments as a method for securing needles was not found to be practical. Initially smaller needle fragments were tested but unfortunately a needle was lost in the processing plant, halting all operations until found, which required 1-hour of searching between five individuals. The risk/reward was assessed and the decision was made to test only ¾” long 16 gauge needle fragments since this was the size that could be secured to the product with confidence. Photos were not allowed in any of the processing facilities.



A



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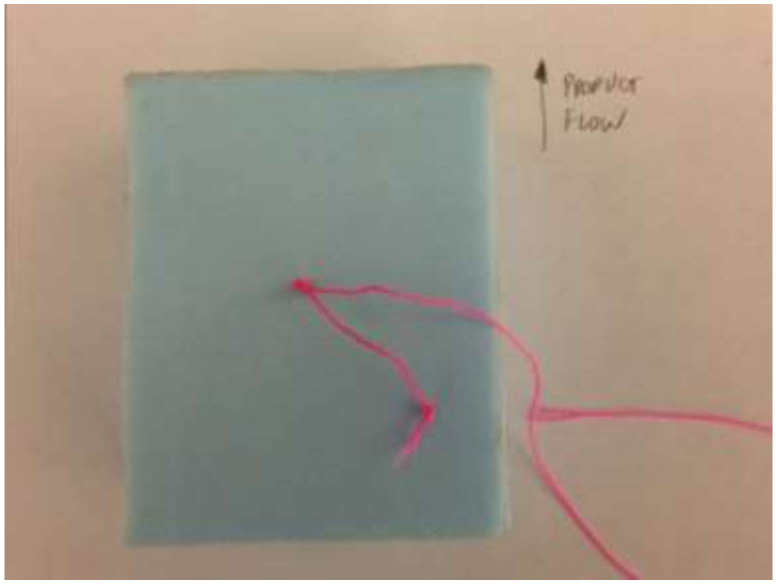

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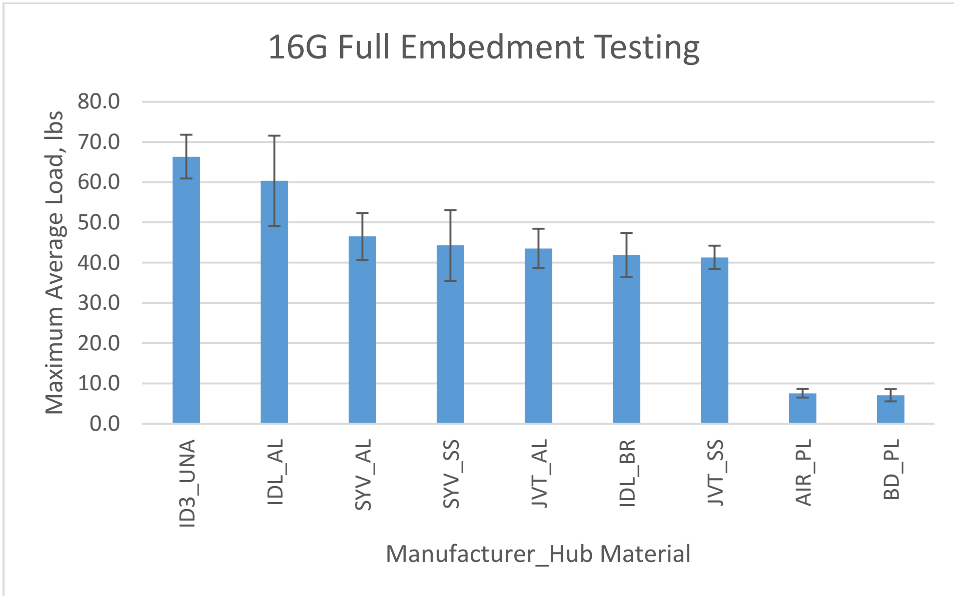
Figure 6. Needle orientations through detectors showing A=horizontal back (HB), B=horizontal side (HS), and C=vertical middle (VM). The string was used to secure the needle in product during passes through the detector.

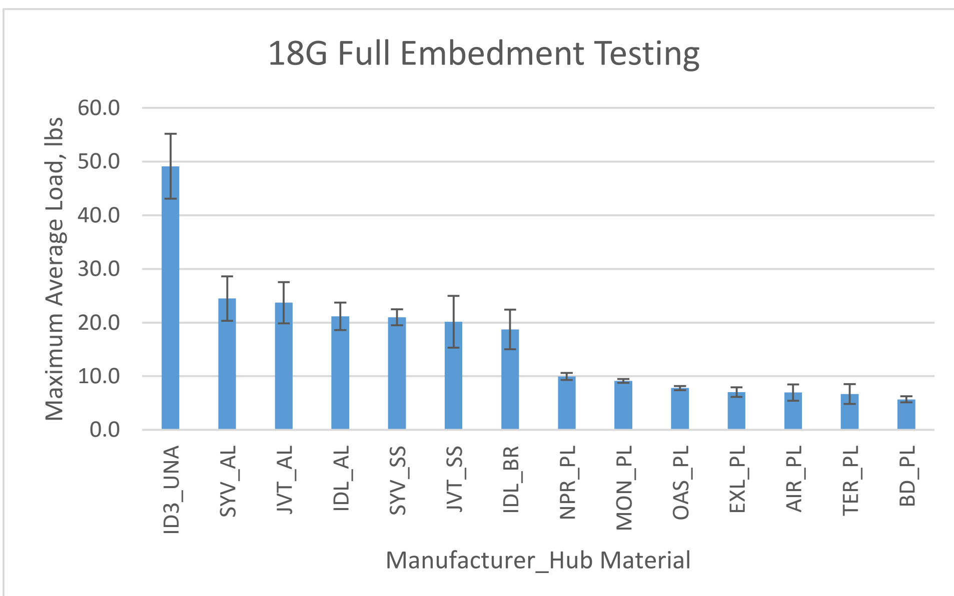
Results:

Objective 1. *Provide to the industry a complete document outlining ultimate static strength, static load-to-failure, and the failure modes for all veterinary-use hypodermic needles used in the United States. Testing will include 16, 18, 20, and 22 gauge needles varying from ½ to 2 inches in length and with all combinations of needles and hub material currently available.*

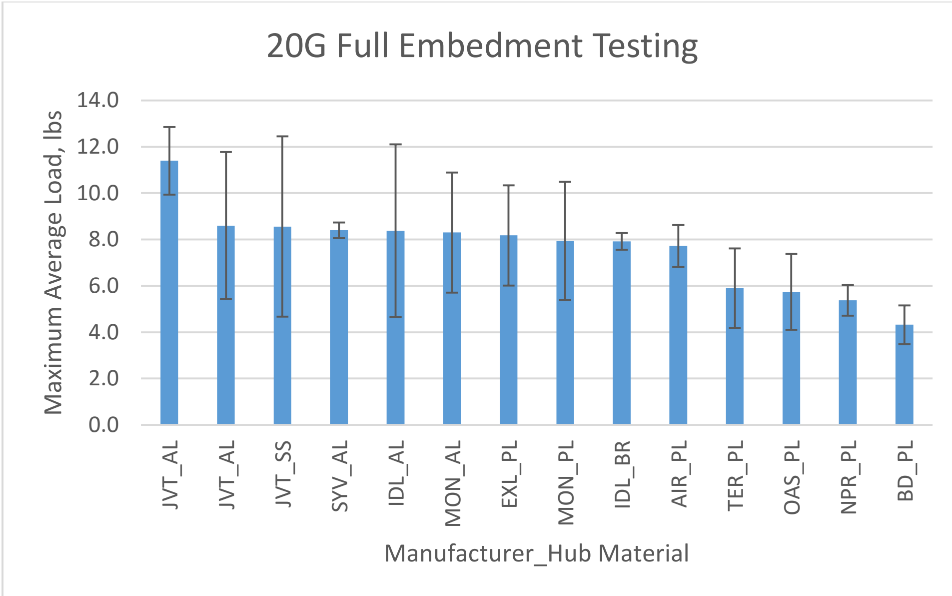
Results. Full-embedment testing was conducted on the acquired 16, 18, 20, and 22 gauge needles listed in Table 1. The results presented in Appendix A are summarized in Figure 7. For all gauges tested, the metal-based hubs (UNA, BR, SS, AL) had a significantly higher load to failure versus plastic (PL) hub needles ($p<0.05$). The average load to failure for metal-based 16 gauge hubs was 49.2±2.9 lb_f (±95% CI) versus 7.3±5.5 lb_f for PL-based hubs (Figure 7a). The average load to failure for metal-based 18 gauge hubs was 25.5±2.4 lb_f versus 7.6±2.4 lb_f for PL-based hubs (Figure 7b). The average load to failure for metal-based 20 gauge hubs was 8.8±0.5 lb_f versus 6.5±0.5 lb_f for PL-based hubs (Figure 7c) and the average load to failure for metal-based 22 gauge hubs was 4.1±0.5 lb_f versus 3.6±0.2 lb_f for PL-based hubs (Figure 7d). The range of load-to-failure results from this study are consistent with the results presented in Hoff (2000).


16G Full Embedment Testing
Maximum Average Load, lbs
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
ID3_UNA
IDL_AL
SYV_AL
SYV_SS
JVT_AL
IDL_BR
JVT_SS
AIR_PL
BD_PL
Manufacturer_Hub Material

A


18G Full Embedment Testing
Maximum Average Load, lbs
60.0
50.0
40.0
30.0
20.0
10.0
0.0
ID3_UNA
SYV_AL
JVT_AL
IDL_AL
SYV_SS
JVT_SS
IDL_BR
NPR_PL
MON_PL
OAS_PL
EXL_PL
AIR_PL
TER_PL
BD_PL
Manufacturer_Hub Material

B



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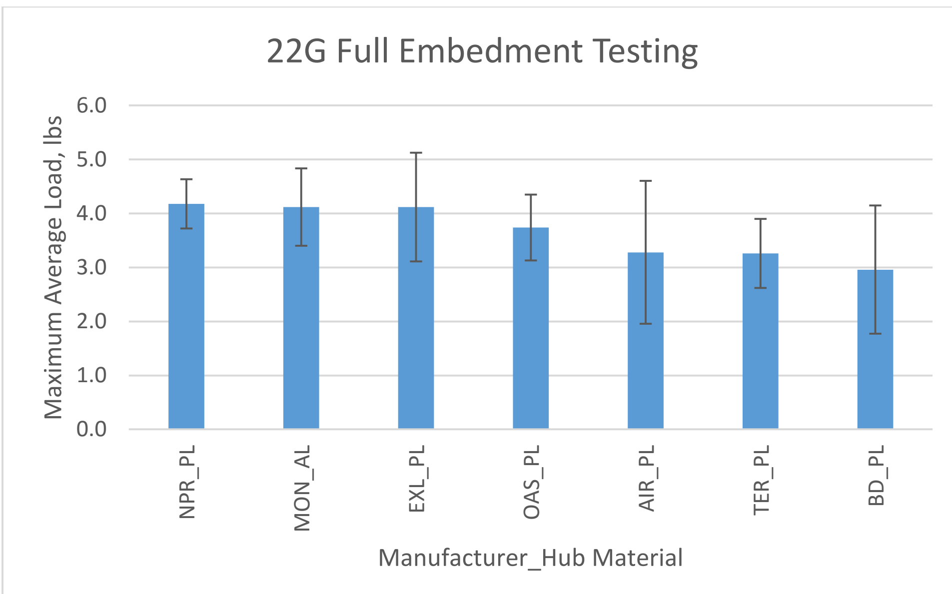
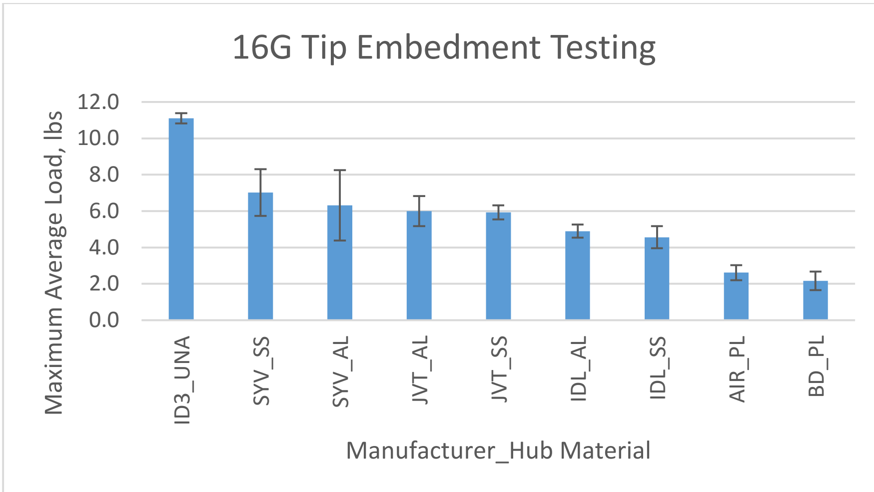


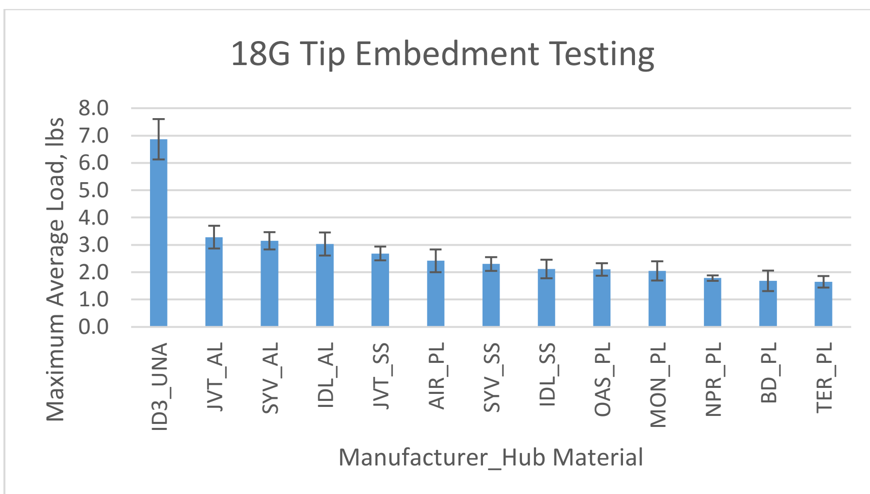
D

Figure 7. Full-embedment testing results for A=16g, B=18g, C=20g, and D=22g needles. The 95% confidence interval limits shown. Complete data set given in the appendix.

Tip-bending results are shown in Figure 8 for 16 (Figure 8a) and 18 (Figure 8b) gauge needles and in Appendix B for 16, 18, 20, and 22 gauge needles. The tip-bending load results for 20 and 22 gauge needles were all less than the 0.3 lb_f lower limit of our testing load cell. Tip-bending results are consistent with previous results (Hoff, 2000).



A



B

Figure 8. Tip-bending testing results for A=16g and B=18g needles. The 95% confidence interval limits shown. The tip-bending testing results for 20g and 22g were all less than 0.30 lb_f, the lower limit of our load cell. Complete data set given in the appendix.

Objective 2. *Provide to the industry a complete document outlining ultimate dynamic failure modes for all veterinary-use hypodermic needles used in the United States. Testing will include 16, 18, 20, and 22 gauge needles varying from ½ to 2 inches in length and with all combinations of needles and hub material currently available*

Results. Dynamic testing was conducted on the AMS device. The results from this testing are compiled based on failure mode and summarized in Table 2. Complete data is presented in Appendix C. For all plastic hubs attached to 16 and 18 gauge needles, 97.5% (78/80) failures were hub fractures (HF) with the remaining 2.5% permanent hub deformation (PHD). For all metal-based hubs (UNA, BR, SS, AL) attached to 16 and 18 gauge needles, 94.2% (98/104) failures were permanent needle deformation (PND) with the remaining 5.8% exhibiting no visible damage (NVD; AMS stopped due to needle embedment). For all PL hubs attached to 20 and 22 gauge needles, 43.1% (56/130) failures were HF with the remaining 56.9% permanent needle deformation. For all metal-based hubs (SS, AL) attached to 20 and 22 gauge needles, 100% of failures were PND. These results are consistent with previous testing (Hoff, 2000).

Table 2. Dynamic testing failure modes for all needles tested in this study.

Gauge	Hub Material	
	PL	Metal (UNA, BR, SS, or AL)
16, 18	97.5% HF, 2.5% PHD	94.2% PND, 5.8% NVD
20, 22	43.1% HF, 56.9% PND	100% PND

Objective 3. *Provide to the industry a complete document outlining sharpness characteristics for all veterinary-use hypodermic needles used in the United States. Testing will include 16, 18, 20, and 22 gauge needles with repeated puncture strength evaluations up to 30 uses per needed*

Results. Sharpness testing results are shown in Figures 9 and 10. The puncture force required for 16, 18, and 20, and 22 gauge needles were all significantly different ($p<0.05$) with averages of 4.2±0.7, 3.1±0.6, 2.3±0.7, and 1.8±0.5 (lb_f±SD) respectively (Figure 9). The differences measured within each gauge category are shown in Figure 10. Sharpness retention for 30 repeated punctures was highest for 16 gauge needles and lowest for 22 gauge needles. The 22 gauge needles tested were fairly consistent in behavior, where within 10 punctures the puncture force required increased on average by 400%. The average sharpness retention measured for all 16, 18, 20, and 22 gauge needles tested is given in Figure 11. As was found with the original circa 2000 study, sharpness fell after about 10-12 punctures, then remained reasonably constant up to the 30^{th} puncture.

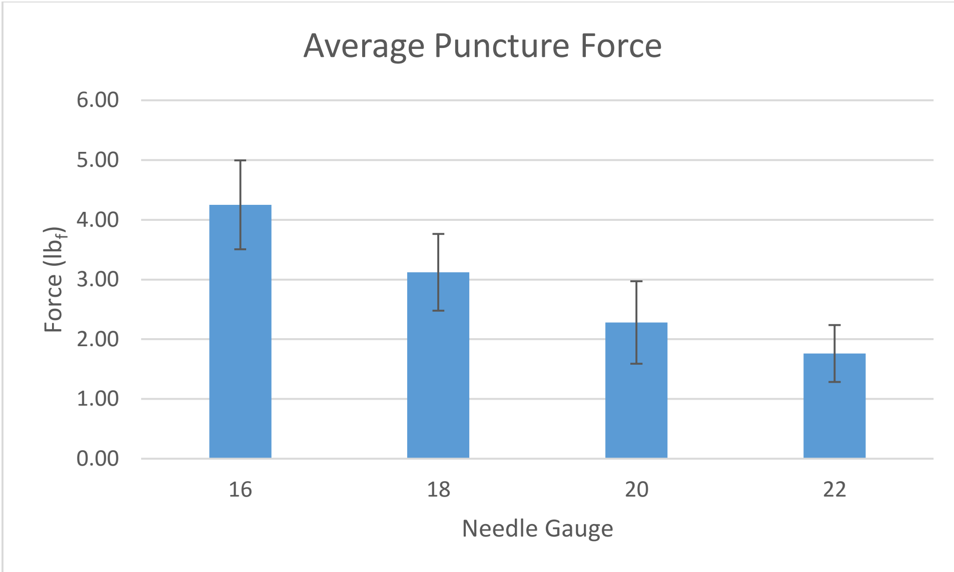
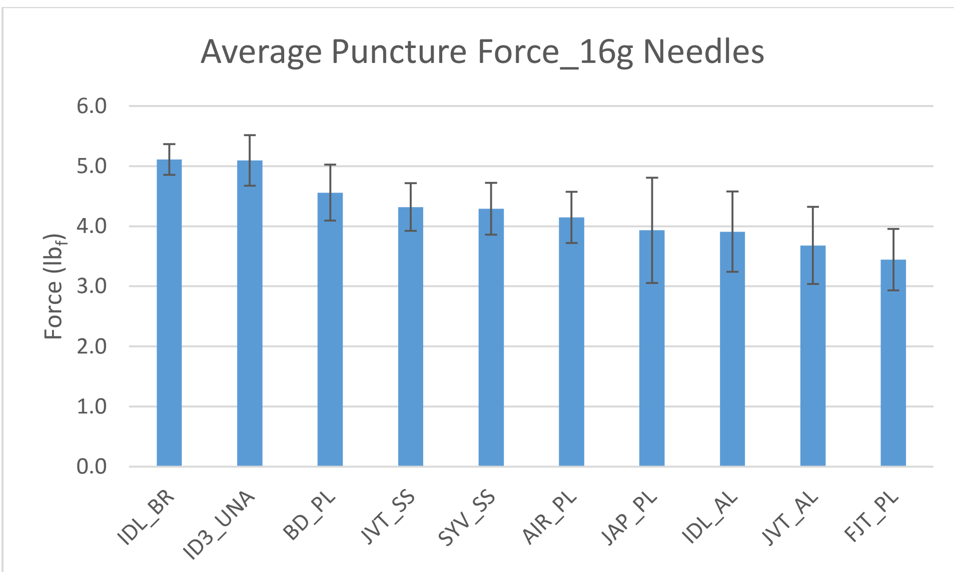
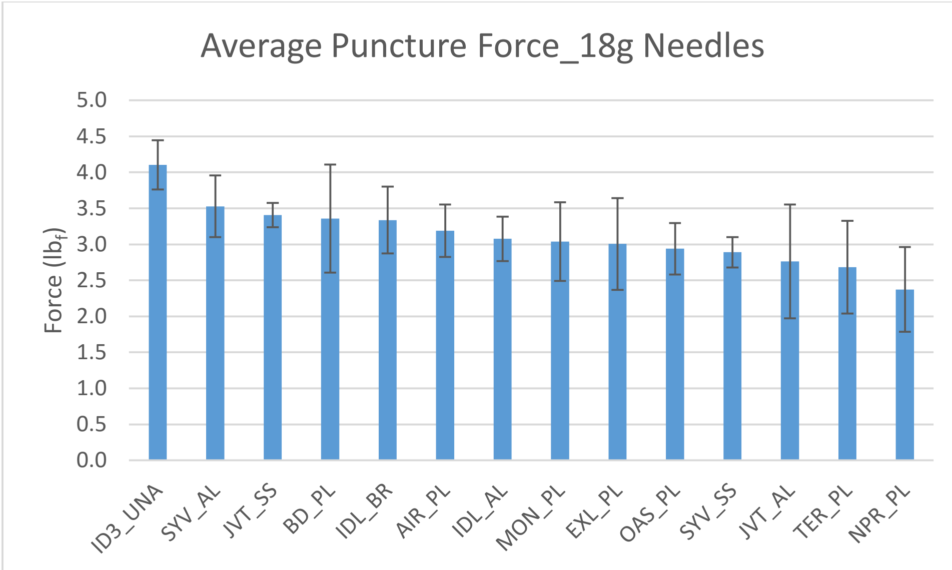


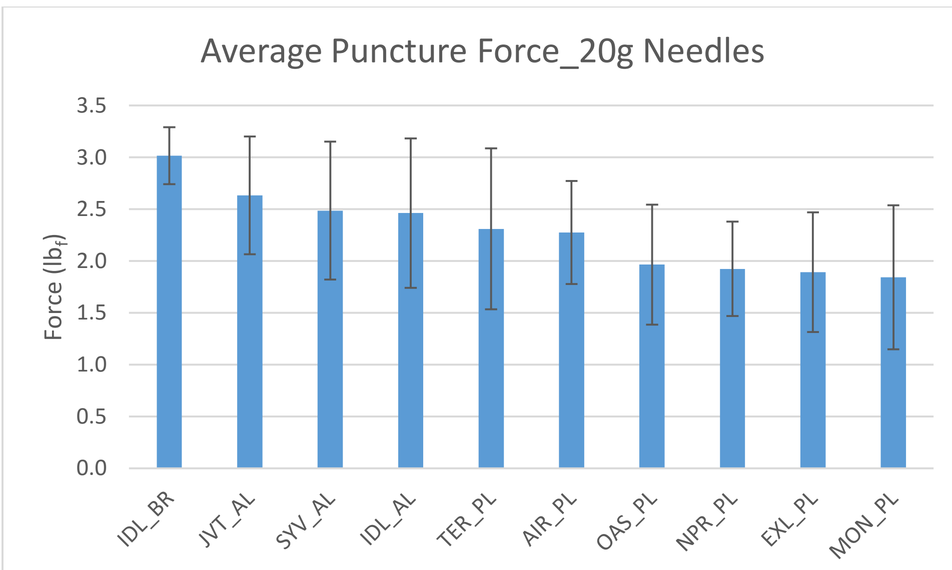
Figure 9. Average puncture force for all 16, 18, 20, and 22 gauge needles tested.



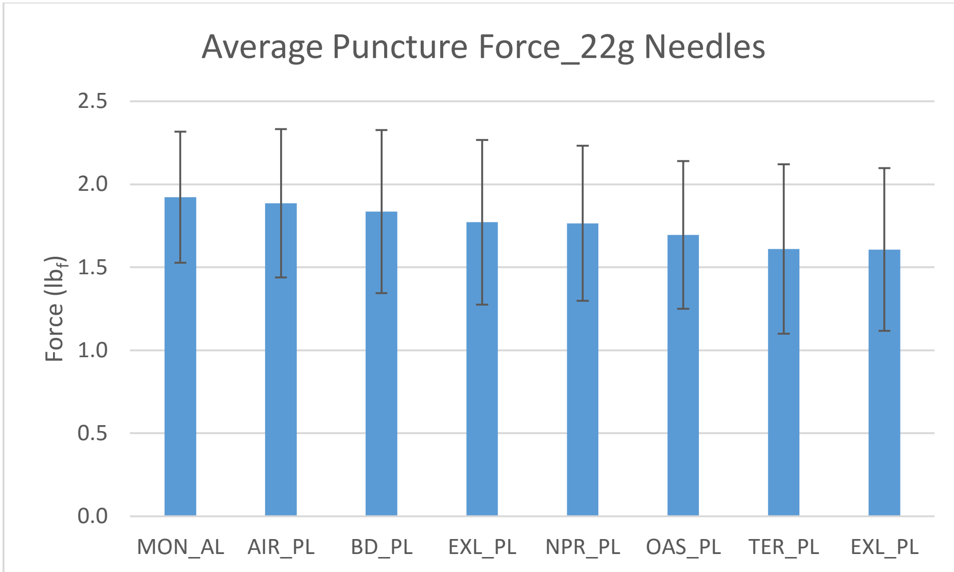
A


Average Puncture Force_18g Needles
Force (lbf)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
ID3_UNA
SYV_AL
JVT_SS
BD_PL
IDL_BR
AIR_PL
IDL_AL
MON_PL
EXL_PL
OAS_PL
SYV_SS
JVT_AL
TER_PL
NPR_PL

B


Average Puncture Force_20g Needles
Force (lbf)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
IDL_BR
JVT_AL
SYV_AL
IDL_AL
TER_PL
AIR_PL
OAS_PL
NPR_PL
EXL_PL
MON_PL

C



D

Figure 10. Summary results for sharpness testing.

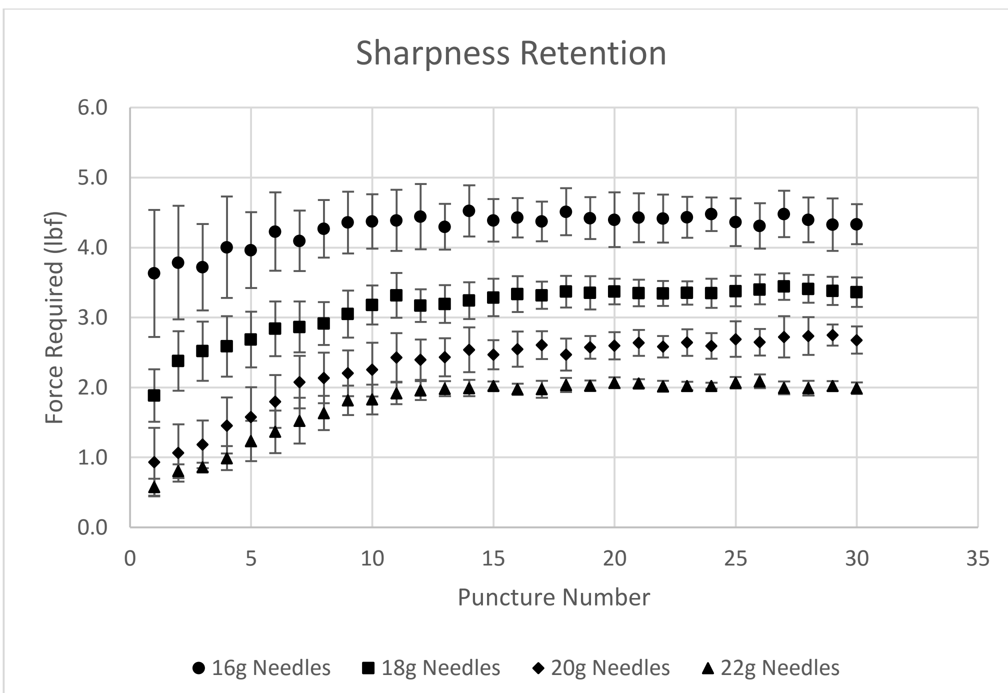


Figure 11. Summary of sharpness retention across all needles by gauge tested (Ave±95% CI).

Objective 4. *Using ¼-inch, ½-inch, and ¾-inch needle fragments from all 16, 18, 20, and 22 gauge needles tested, determine needle detectability as a function of needle fragment size and orientation embedded in a consistent cut of pork as it passes through magnetic-based and*

X-Ray-based detectors employed today in U.S. packing plants. This testing will be conducted on-site at packing plants

Results. Detectability testing was completed at three processing plants in Iowa, one in Minnesota, and one in Nebraska. In total, 10 detectors were investigated consisting of six magnetic-based and four X-Ray based detectors. A summary of detector characteristics is given in Table 3.

Table 3. Processing plant detectors and detector characteristics.

Plant ID	Detector(s) Tested	Detector Technology	Model/Series Number	Detector ID	Product Line	Product Size, lbs.
A	Safeline	Magnetic	Signature	SLM	Loin	9.2
A	Safeline	Magnetic	Signature	SLM	Shoulder	4.5
A	Anritsu	X-Ray	XR	ANX	Loin	9.2
A	Anritsu	X-Ray	XR	ANX	Shoulder	4.5
B	LOMA	Magnetic	IQ 2	LAM	Shoulder	2x3 (6)[&]
B	LOMA	Magnetic	IQ 2	LAM	Loin	8.3
B	THS	Magnetic	Ceia-3F	THM	CT Butt	3.8
B	FOSS	X-Ray	Meatmaster	FOX	Trim Blend	8.6
B	THS	Magnetic	Ceia-3F	THM	CVA[#] Roast	9.7
C	Safeline	X-Ray	R40V	SLX	Butt	4.7
D	Safeline	Magnetic	Signature	SLM	Loin	8.5
D	Safeline	Magnetic	Signature	SLM	SLS[$]_Sribs	5.8
E	Safeline	X-Ray	PowerChek	SLX	Collar Cut	4.4*

[#]Consumer value added (CVA). [$]St Louis Style. [&]Package was 6 lbs total, 2-3lb cuts in one wrapping. *Other products of various sizes passed through this machine during testing.

A total of 1248 needle passes were conducted for all five processing plants combined, with 768 passes through magnetic-based technology and 480 passes through X-Ray based technology. The overall results from detection testing are given in Table 4.

Table 4. Overall summary of magnetic versus X-Ray detection rates.

Property	Overall	Magnetic_All	Magnetic_WO ID3[&]	Magnetic_ID3	X-Ray
Detects	464	164	87	77	300
Total Passes	1248	768	672	96	480
% Detect	**37.2**	**21.4**	**12.9**	**80.2**	**62.5**

[&]The Ideal D3 needle is specifically designed to elicit a response through magnetic-based technology.

Combining all results from all detectors and processing plants indicated a 37.2% (464/1248) detection rate. For all needles passed through magnetic-based detectors, a 21.4% (164/768) detection rate was measured. One particular needle tested in this study (ID3) was designed to elicit a response through magnetic-based technology, and its detection rate through magnetic-based detectors was 80.2% (77/96). If this particular needle was excluded from the data set, the remaining average detection through magnetic-based machines was 12.9% (87/672). For all needles passed through X-Ray based technology, the overall detection rate was 62.5% (300/480). The detection differences between all X-Ray (62.5%) and all magnetic-based (21.4%) detectors was significant ($p<0.05$).

The detection rate by processing plant and product line is given in Table 5. Plant detection rates varied from 20.8% (Plant B) to 100.0% (Plant E).

Table 5. Detection levels by processing plant and detector.

Plant ID	Detector ID	Total Passes	Total Detects	% Detection	Product
A	SLM	96	18	18.8	Loin
A	SLM	96	0	0.0	Shoulder
A	ANX	96	96	100.0	Loin
A	ANX	96	63	65.6	Shoulder
B	LAM	96	20	20.8	Loin
B	LAM	96	11	11.5	Shoulder
B	THM	96	29	30.2	CT Butt
B	FOX	96	10	10.4	Trim Blend
B	THM	96	30	31.3	CVA Roast
C	SLX	96	35	36.5	Butt
D	SLM	96	31	32.3	Loin
D	SLM	96	25	26.0	SLS_Sribs
E	SLX	96	96	100.0	Collar Cut
		1248	**464**	**37.2**	

Orientation through the detector was a significant contributor to detection rate. Comparing all passes through all detectors, the HS orientation was significantly less than both HB and VM orientations ($p<0.05$). If a needle was detected, 46.9% and 39.2% of the time it was in the HB or VM orientations respectively ($p>0.05$) and 25.5% in the HS orientation. The needle tested from each manufacturer (Needle 1 or Needle 2) was not significant ($p>0.05$). Within the magnetic-based detectors, HS and VM orientations had low detection rates (12.1±0.3% and 10.6±0.3%, respectively) with the HB orientation substantially higher (41.4±0.5%). Within the X-Ray based detectors tested, the HB and HS orientation detection rates were similar (55.6±0.5% and 46.9±0.5%) with the VM orientation exhibiting the highest detection at 85.0±0.4%. These results are summarized in Table 6.

Table 6. Detection rates by detector technology and orientation through the detector.

Orientation	**Total Passes**	**Technology**	
		Technology[$]	% Detection
HB	256	M	41.4±0.5[&]
HS	256	M	12.1±0.3
VM	256	M	10.6±0.3
HB	160	X	55.6±0.5
HS	160	X	46.9±0.5
VM	160	X	85.0±0.4

[$]M=magnetic based, X=X-Ray based. [&]Percent detection ± SD.

Discussion: The strength and sharpness data presented in this research project, representing a follow-up assessment to the research conducted in circa 2000, provided little additional information, implying that the strength and sharpness "state" of our swine-use needles today are as they were. This is good information, since the original research that was conducted clearly showed that our needles themselves are strong enough and not the reason why needles are ending up as a physical hazard. Having needles today ending up as a physical hazard is most likely the result of needle misuse as was previously shown.

The unique aspect of this research project is the testing of detection technology available today as being used in our processing facilities. In circa 2000, technology was limited to magnetic-based machines. Testing conducted at that time, in a controlled laboratory setting using one common detector (Safeline® Power Phase™), indicated an industry average detection rate of 14.9% (Hoff, 2001). Based on the findings from this study, it was found that 12.9% of the needles that would have been available in circa 2000 were detected by magnetic-based technology, pooling all data from all plants; a near perfect agreement with prior findings. One of the needles tested used an alloy favorable for magnetic-based technology (Ideal D3). This needle by itself was detected 80.2% of the time across all processing plants and the variety of magnetic-based machines tested. The overall state of needle detection (all needles through all magnetic-based detectors) was 21.4% representing a 6.5% improvement in magnetic-based detection. In processing plants today, X-Ray technology has been added as an attempt to improve the detection rates of needle physical hazards. The addition of X-Ray technology to processing facilities has improved our ability to detect needles. Reviewing all needles through all X-Ray based detectors indicated an average 62.5% detection, however, a large variation in X-Ray detection was observed, ranging from 10.4% to 100%. Clearly, some level of standardization is required to improve our current state of detection with this latest technology.

Needle orientation through either magnetic or X-Ray based detectors is still an issue, as it was in previous work testing magnetic-based technology. For magnetic-based detectors, the horizontal side (HS) and vertical middle (VM) orientations through the detector aperture were troublesome with an overall average 12.1% and 10.6% detection, respectively. In contrast to this, for X-Ray based technology the VM orientation resulted in the highest detection rate (85.0%), with the HS and horizontal back (HB) lagging at 46.9% and 55.6%, respectively.

Needles passing into the market-place is the result of several factors, with really no blame to be made on any one factor. Needle manufacturers have tried to develop strong easy-to-use needles, and have succeeded in this regard. One manufacturer, in response to circa 2000 findings, developed a cannula alloy that is very responsive to magnetic-based technology regardless of needle orientation, and the results of testing support significant success in this regard. The advent of X-Ray technology in processing facilities has definitely improved the ability to find needles. The detection rates were impressive, although still far from a level of confidence that most would be willing to accept, and unfortunately, needle orientation is still a factor in some of the X-Ray detectors tested. Processing facilities have responded to physical hazards by adopting expensive X-Ray technology, but in terms of needle detection, has not resulted in a perfect system for needle detection.

It is difficult to “demand” a certain needle alloy that can be detected by a certain technology, as technology will change with time and it is very difficult to develop detection technology to capture the array of needle fragment sizes that might end up at the processing facility. The elimination of needles from the market place must come from the source. Needles should not be allowed to enter a processing facility directly. To accommodate this stringent requirement will require the use of needles that if lodged in the animal, is lodged in such a way as to remain very visible to the casual observer. This change will require a complete review of the hub/cannula interface and the insistence that if weakened, a portion of a highly visible hub remains at the animal’s surface attached to the embedded cannula. This is an engineering problem, developing a hub/cannula “system” in contrast to a given needle alloy attached to whatever hub is available at the present time. This is an area that must be pursued.

Appendix A. Full-embedment testing results.

Manufacturer	Hub	Man_Hub	Gauge	Length	Ave	SD	±95% CI	Failure Mode			N
								HF	PHD	PND	
ID3	UNA	ID3_UNA	16	1	66.36	1.97	5.47			100.0	5
IDL	AL	IDL_AL	16	1	60.34	4.05	11.25			100.0	5
SYV	AL	SYV_AL	16	1	46.52	2.10	5.83			100.0	5
SYV	SS	SYV_SS	16	1	44.28	3.16	8.78	20.0		80.0	5
JVT	AL	JVT_AL	16	1	43.54	1.76	4.87			100.0	5
IDL	BR	IDL_BR	16	1	41.90	2.00	5.56			100.0	5
JVT	SS	JVT_SS	16	1	41.34	1.05	2.92			100.0	5
AIR	PL	AIR_PL	16	1	7.56	0.39	1.09	100.0			5
BD	PL	BD_PL	16	1	7.08	0.54	1.50	80.0	20.0		5
ID3	UNA	ID3_UNA	18	1	49.12	2.18	6.04			100.0	5
SYV	AL	SYV_AL	18	1	24.50	1.49	4.15			100.0	5
JVT	AL	JVT_AL	18	1	23.72	1.38	3.83			100.0	5
IDL	AL	IDL_AL	18	1	21.16	0.92	2.54			100.0	5
SYV	SS	SYV_SS	18	1	20.98	0.53	1.47			100.0	5
JVT	SS	JVT_SS	18	1	20.18	1.74	4.82			100.0	5
IDL	BR	IDL_BR	18	1	18.72	1.33	3.68			100.0	5
NPR	PL	NPR_PL	18	1	9.98	0.24	0.66		100.0		5
MON	PL	MON_PL	18	1	9.14	0.13	0.37	100.0			5
OAS	PL	OAS_PL	18	1	7.80	0.14	0.39		100.0		5
EXL	PL	EXL_PL	18	1.5	7.04	0.33	0.91	100.0			5
AIR	PL	AIR_PL	18	1	6.96	0.55	1.52	80.0	20.0		5
TER	PL	TER_PL	18	1	6.70	0.66	1.83		100.0		5
BD	PL	BD_PL	18	1	5.70	0.20	0.56	100.0			5
JVT	AL	JVT_AL	20	1	11.40	0.52	1.46			100.0	5
JVT	AL	JVT_AL	20	0.5	8.60	1.14	3.17			100.0	5
JVT	SS	JVT_SS	20	1	8.56	1.40	3.89			100.0	5
SYV	AL	SYV_AL	20	1	8.40	0.12	0.34			100.0	5
IDL	AL	IDL_AL	20	1	8.38	1.34	3.72			100.0	5
MON	AL	MON_AL	20	1	8.30	0.94	2.60			100.0	5
EXL	PL	EXL_PL	20	1	8.18	0.78	2.16	100.0			5
MON	PL	MON_PL	20	1	7.94	0.92	2.56	60.0	20.0	20.0	5
IDL	BR	IDL_BR	20	1	7.92	0.13	0.36			100.0	5
AIR	PL	AIR_PL	20	1	7.72	0.33	0.91	100.0			5
TER	PL	TER_PL	20	1	5.90	0.62	1.71	20.0	40.0	40.0	5
OAS	PL	OAS_PL	20	1	5.74	0.59	1.64		20.0	80.0	5
NPR	PL	NPR_PL	20	1	5.38	0.24	0.66	40.0		60.0	5
BD	PL	BD_PL	20	1	4.32	0.30	0.84	40.0	60.0		5
NPR	PL	NPR_PL	22	1	4.18	0.16	0.46	60.0		40.0	5
MON	AL	MON_AL	22	1	4.12	0.26	0.72			100.0	5
EXL	PL	EXL_PL	22	1	4.12	0.36	1.01	40.0		60.0	5
OAS	PL	OAS_PL	22	1	3.74	0.22	0.61			100.0	5
AIR	PL	AIR_PL	22	1	3.28	0.48	1.32			100.0	5
TER	PL	TER_PL	22	1	3.26	0.23	0.64	40.0		60.0	5
BD	PL	BD_PL	22	1	2.96	0.43	1.19	20.0		80.0	5

Appendix B. Tip bending results.

Manufacturer	Hub	Man_Hub	Gauge	Length	Ave	SD	±95% CI	Failure Mode			N
								HF	PHD	PND	
ID3	UNA	ID3_UNA	16	1	11.10	0.11	0.28			100.0	6
SYV	SS	SYV_SS	16	1	7.02	0.50	1.28			100.0	6
SYV	AL	SYV_AL	16	1	6.32	0.75	1.93			100.0	6
JVT	AL	JVT_AL	16	1	6.00	0.32	0.83			100.0	6
JVT	SS	JVT_SS	16	1	5.93	0.15	0.39			100.0	6
IDL	AL	IDL_AL	16	1	4.90	0.14	0.36			100.0	6
IDL	BR	IDL_BR	16	1	4.57	0.23	0.60			100.0	6
AIR	PL	AIR_PL	16	1	2.62	0.16	0.41	100.0			6
BD	PL	BD_PL	16	1	2.17	0.20	0.51	33.3	66.7		6
ID3	UNA	ID3_UNA	18	1	6.87	0.29	0.74			100.0	6
JVT	AL	JVT_AL	18	1	3.28	0.16	0.41			100.0	6
SYV	AL	SYV_AL	18	1	3.15	0.12	0.31			100.0	6
IDL	AL	IDL_AL	18	1	3.03	0.16	0.42			100.0	6
JVT	SS	JVT_SS	18	1	2.68	0.10	0.25			100.0	6
AIR	PL	AIR_PL	18	1	2.42	0.16	0.41		100.0		6
SYV	SS	SYV_SS	18	1	2.30	0.10	0.26			100.0	6
IDL	BR	IDL_BR	18	1	2.12	0.13	0.34			100.0	6
OAS	PL	OAS_PL	18	1	2.10	0.09	0.23			100.0	6
MON	PL	MON_PL	18	1	2.05	0.14	0.35	16.7	83.3		6
NPR	PL	NPR_PL	18	1	1.78	0.04	0.10			100.0	6
BD	PL	BD_PL	18	1	1.68	0.15	0.38	100.0			6
TER	PL	TER_PL	18	1	1.65	0.08	0.22		100.0		6
AIR	PL	AIR_PL	20	1	0.00	0.00	0.00			100.0	6
BD	PL	BD_PL	20	1	0.00	0.00	0.00			100.0	6
EXL	PL	EXL_PL	20	1	0.00	0.00	0.00			100.0	6
IDL	AL	IDL_AL	20	1	0.00	0.00	0.00			100.0	6
IDL	BR	IDL_BR	20	1	0.00	0.00	0.00			100.0	6
JVT	AL	JVT_AL	20	1	0.00	0.00	0.00			100.0	6
JVT	SS	JVT_SS	20	1	0.00	0.00	0.00			100.0	6
MON	AL	MON_AL	20	1	0.00	0.00	0.00			100.0	6
MON	PL	MON_PL	20	1	0.00	0.00	0.00			100.0	6
NPR	PL	NPR_PL	20	1	0.00	0.00	0.00			100.0	6
OAS	PL	OAS_PL	20	1	0.00	0.00	0.00			100.0	6
SYV	SS	SYV_SS	20	1	0.00	0.00	0.00			100.0	6
TER	PL	TER_PL	20	1	0.00	0.00	0.00			100.0	6
AIR	PL	AIR_PL	22	1	0.00	0.00	0.00			100.0	6
BD	PL	BD_PL	22	1	0.00	0.00	0.00			100.0	6
EXL	PL	EXL_PL	22	1	0.00	0.00	0.00			100.0	6
MON	AL	MON_AL	22	1	0.00	0.00	0.00			100.0	6
NPR	PL	NPR_PL	22	1	0.00	0.00	0.00			100.0	6
OAS	PL	OAS_PL	22	1	0.00	0.00	0.00			100.0	6
TER	PL	TER_PL	22	1	0.00	0.00	0.00			100.0	6

Appendix C. Dynamic testing results.

Man	Hub	Man_Hub	Gauge	Failure Mode				
				HF	PHD	PND	NVD	N
IDL	AL	IDL_AL	16	0	0	100	0	6
JVT	AL	JVT_AL	16	0	0	83	17	6
SYV	AL	SYV_AL	16	0	0	100	0	6
IDL3	UNA	ID3_UNA	16	0	0	100	0	6
AIR	PL	AIR_PL	16	100	0	0	0	6
BD	PL	BD_PL	16	100	0	0	0	6
IDL	BR	IDL_BR	16	0	0	100	0	6
JVT	SS	JVT_SS	16	0	0	33	66	6
SYV	SS	SYV_SS	16	0	0	100	0	6
IDL	AL	IDL_AL	18	0	0	100	0	8
JVT	AL	JVT_AL	18	0	0	87	13	8
SYV	AL	SYV_AL	18	0	0	100	0	8
IDL3	UNA	ID3_UNA	18	0	0	100	0	8
AIR	PL	AIR_PL	18	100	0	0	0	10
BD	PL	BD_PL	18	100	0	0	0	10
EXL	PL	EXL_PL	18	100	0	0	0	10
MON	PL	MON_PL	18	100	0	0	0	10
NPR	PL	NPR_PL	18	100	0	0	0	10
OAS	PL	OAS_PL	18	100	0	0	0	10
TER	PL	TER_PL	18	80	20	0	0	10
IDL	BR	IDL_BR	18	0	0	100	0	10
JVT	SS	JVT_SS	18	0	0	100	0	10
SYV	SS	SYV_SS	18	0	0	100	0	10
IDL	AL	IDL_AL	20	0	0	100	0	10
JVT	AL	JVT_AL	20	0	0	100	0	10
JVT	AL	JVT_AL	20	0	0	100	0	10
MON	AL	MON_AL	20	0	0	100	0	10
SYV	AL	SYV_AL	20	0	0	100	0	10
AIR	PL	AIR_PL	20	100	0	0	0	10
BD	PL	BD_PL	20	100	0	0	0	10
EXL	PL	EXL_PL	20	70	0	30	0	10
MON	PL	MON_PL	20	0	0	100	0	10
NPR	PL	NPR_PL	20	30	0	70	0	10
OAS	PL	OAS_PL	20	40	0	60	0	10
TER	PL	TER_PL	20	90	0	10	0	10
IDL	BR	IDL_BR	20	0	0	100	0	10
JVT	SS	JVT_SS	20	0	0	100	0	10
MON	AL	MON_AL	22	0	0	100	0	10
AIR	PL	AIR_PL	22	20	0	80	0	10
BD	PL	BD_PL	22	50	0	50	0	10
EXL	PL	EXL_PL	22	40	0	60	0	10
NPR	PL	NPR_PL	22	10	0	90	0	10
OAS	PL	OAS_PL	22	10	0	90	0	10
TER	PL	TER_PL	22	0	0	100	0	10

Appendix D. Needle detection testing results.

Plant ID	Detector ID	Cut-line	Needle	Hub	Needle No.	Length, in	Orientation	Run	**Detection**
A	SLM	Loin	BD	PL	1	0.75	HB	1	**0**
A	SLM	Loin	BD	PL	1	0.75	HB	2	**0**
A	SLM	Loin	BD	PL	1	0.75	HS	1	**0**
A	SLM	Loin	BD	PL	1	0.75	HS	2	**0**
A	SLM	Loin	BD	PL	1	0.75	VM	1	**0**
A	SLM	Loin	BD	PL	1	0.75	VM	2	**0**
A	SLM	Loin	BD	PL	2	0.75	HB	1	**0**
A	SLM	Loin	BD	PL	2	0.75	HB	2	**0**
A	SLM	Loin	BD	PL	2	0.75	HS	1	**0**
A	SLM	Loin	BD	PL	2	0.75	HS	2	**0**
A	SLM	Loin	BD	PL	2	0.75	VM	1	**0**
A	SLM	Loin	BD	PL	2	0.75	VM	2	**0**
A	SLM	Loin	FJT	PL	1	0.75	HB	1	**1**
A	SLM	Loin	FJT	PL	1	0.75	HB	2	**1**
A	SLM	Loin	FJT	PL	1	0.75	HS	1	**0**
A	SLM	Loin	FJT	PL	1	0.75	HS	2	**0**
A	SLM	Loin	FJT	PL	1	0.75	VM	1	**0**
A	SLM	Loin	FJT	PL	1	0.75	VM	2	**0**
A	SLM	Loin	FJT	PL	2	0.75	HB	1	**0**
A	SLM	Loin	FJT	PL	2	0.75	HB	2	**0**
A	SLM	Loin	FJT	PL	2	0.75	HS	1	**0**
A	SLM	Loin	FJT	PL	2	0.75	HS	2	**0**
A	SLM	Loin	FJT	PL	2	0.75	VM	1	**0**
A	SLM	Loin	FJT	PL	2	0.75	VM	2	**0**
A	SLM	Loin	AIR	PL	1	0.75	HB	1	**1**
A	SLM	Loin	AIR	PL	1	0.75	HB	2	**1**
A	SLM	Loin	AIR	PL	1	0.75	HS	1	**0**
A	SLM	Loin	AIR	PL	1	0.75	HS	2	**0**
A	SLM	Loin	AIR	PL	1	0.75	VM	1	**0**
A	SLM	Loin	AIR	PL	1	0.75	VM	2	**0**
A	SLM	Loin	AIR	PL	2	0.75	HB	1	**1**
A	SLM	Loin	AIR	PL	2	0.75	HB	2	**1**
A	SLM	Loin	AIR	PL	2	0.75	HS	1	**0**
A	SLM	Loin	AIR	PL	2	0.75	HS	2	**0**
A	SLM	Loin	AIR	PL	2	0.75	VM	1	**0**
A	SLM	Loin	AIR	PL	2	0.75	VM	2	**0**
A	SLM	Loin	JVT	AL	1	0.75	HB	1	**0**
A	SLM	Loin	JVT	AL	1	0.75	HB	2	**0**
A	SLM	Loin	JVT	AL	1	0.75	HS	1	**0**
A	SLM	Loin	JVT	AL	1	0.75	HS	2	**0**
A	SLM	Loin	JVT	AL	1	0.75	VM	1	**0**
A	SLM	Loin	JVT	AL	1	0.75	VM	2	**0**
A	SLM	Loin	JVT	AL	2	0.75	HB	1	**0**
A	SLM	Loin	JVT	AL	2	0.75	HB	2	**0**
A	SLM	Loin	JVT	AL	2	0.75	HS	1	**0**
A	SLM	Loin	JVT	AL	2	0.75	HS	2	**0**
A	SLM	Loin	JVT	AL	2	0.75	VM	1	**0**

A	SLM	Loin	JVT	AL	2	0.75	VM	2	**0**
A	SLM	Loin	SYV	AL	1	0.75	HB	1	**0**
A	SLM	Loin	SYV	AL	1	0.75	HB	2	**0**
A	SLM	Loin	SYV	AL	1	0.75	HS	1	**0**
A	SLM	Loin	SYV	AL	1	0.75	HS	2	**0**
A	SLM	Loin	SYV	AL	1	0.75	VM	1	**0**
A	SLM	Loin	SYV	AL	1	0.75	VM	2	**0**
A	SLM	Loin	SYV	AL	2	0.75	HB	1	**0**
A	SLM	Loin	SYV	AL	2	0.75	HB	2	**0**
A	SLM	Loin	SYV	AL	2	0.75	HS	1	**0**
A	SLM	Loin	SYV	AL	2	0.75	HS	2	**0**
A	SLM	Loin	SYV	AL	2	0.75	VM	1	**0**
A	SLM	Loin	SYV	AL	2	0.75	VM	2	**0**
A	SLM	Loin	IDL	AL	1	0.75	HB	1	**0**
A	SLM	Loin	IDL	AL	1	0.75	HB	2	**0**
A	SLM	Loin	IDL	AL	1	0.75	HS	1	**0**
A	SLM	Loin	IDL	AL	1	0.75	HS	2	**0**
A	SLM	Loin	IDL	AL	1	0.75	VM	1	**0**
A	SLM	Loin	IDL	AL	1	0.75	VM	2	**0**
A	SLM	Loin	IDL	AL	2	0.75	HB	1	**0**
A	SLM	Loin	IDL	AL	2	0.75	HB	2	**0**
A	SLM	Loin	IDL	AL	2	0.75	HS	1	**0**
A	SLM	Loin	IDL	AL	2	0.75	HS	2	**0**
A	SLM	Loin	IDL	AL	2	0.75	VM	1	**0**
A	SLM	Loin	IDL	AL	2	0.75	VM	2	**0**
A	SLM	Loin	ID3	UNA	1	0.75	HB	1	**1**
A	SLM	Loin	ID3	UNA	1	0.75	HB	2	**1**
A	SLM	Loin	ID3	UNA	1	0.75	HS	1	**1**
A	SLM	Loin	ID3	UNA	1	0.75	HS	2	**1**
A	SLM	Loin	ID3	UNA	1	0.75	VM	1	**1**
A	SLM	Loin	ID3	UNA	1	0.75	VM	2	**1**
A	SLM	Loin	ID3	UNA	2	0.75	HB	1	**1**
A	SLM	Loin	ID3	UNA	2	0.75	HB	2	**1**
A	SLM	Loin	ID3	UNA	2	0.75	HS	1	**1**
A	SLM	Loin	ID3	UNA	2	0.75	HS	2	**1**
A	SLM	Loin	ID3	UNA	2	0.75	VM	1	**1**
A	SLM	Loin	ID3	UNA	2	0.75	VM	2	**1**
A	SLM	Loin	JAP	PL	1	0.75	HB	1	**0**
A	SLM	Loin	JAP	PL	1	0.75	HB	2	**0**
A	SLM	Loin	JAP	PL	1	0.75	HS	1	**0**
A	SLM	Loin	JAP	PL	1	0.75	HS	2	**0**
A	SLM	Loin	JAP	PL	1	0.75	VM	1	**0**
A	SLM	Loin	JAP	PL	1	0.75	VM	2	**0**
A	SLM	Loin	JAP	PL	2	0.75	HB	1	**0**
A	SLM	Loin	JAP	PL	2	0.75	HB	2	**0**
A	SLM	Loin	JAP	PL	2	0.75	HS	1	**0**
A	SLM	Loin	JAP	PL	2	0.75	HS	2	**0**
A	SLM	Loin	JAP	PL	2	0.75	VM	1	**0**
A	SLM	Loin	JAP	PL	2	0.75	VM	2	**0**
A	SLM	Shoulder	BD	PL	1	0.75	HB	1	**0**

A	SLM	Shoulder	BD	PL	1	0.75	HB	2	**0**
A	SLM	Shoulder	BD	PL	1	0.75	HS	1	**0**
A	SLM	Shoulder	BD	PL	1	0.75	HS	2	**0**
A	SLM	Shoulder	BD	PL	1	0.75	VM	1	**0**
A	SLM	Shoulder	BD	PL	1	0.75	VM	2	**0**
A	SLM	Shoulder	BD	PL	2	0.75	HB	1	**0**
A	SLM	Shoulder	BD	PL	2	0.75	HB	2	**0**
A	SLM	Shoulder	BD	PL	2	0.75	HS	1	**0**
A	SLM	Shoulder	BD	PL	2	0.75	HS	2	**0**
A	SLM	Shoulder	BD	PL	2	0.75	VM	1	**0**
A	SLM	Shoulder	BD	PL	2	0.75	VM	2	**0**
A	SLM	Shoulder	FJT	PL	1	0.75	HB	1	**0**
A	SLM	Shoulder	FJT	PL	1	0.75	HB	2	**0**
A	SLM	Shoulder	FJT	PL	1	0.75	HS	1	**0**
A	SLM	Shoulder	FJT	PL	1	0.75	HS	2	**0**
A	SLM	Shoulder	FJT	PL	1	0.75	VM	1	**0**
A	SLM	Shoulder	FJT	PL	1	0.75	VM	2	**0**
A	SLM	Shoulder	FJT	PL	2	0.75	HB	1	**0**
A	SLM	Shoulder	FJT	PL	2	0.75	HB	2	**0**
A	SLM	Shoulder	FJT	PL	2	0.75	HS	1	**0**
A	SLM	Shoulder	FJT	PL	2	0.75	HS	2	**0**
A	SLM	Shoulder	FJT	PL	2	0.75	VM	1	**0**
A	SLM	Shoulder	FJT	PL	2	0.75	VM	2	**0**
A	SLM	Shoulder	AIR	PL	1	0.75	HB	1	**0**
A	SLM	Shoulder	AIR	PL	1	0.75	HB	2	**0**
A	SLM	Shoulder	AIR	PL	1	0.75	HS	1	**0**
A	SLM	Shoulder	AIR	PL	1	0.75	HS	2	**0**
A	SLM	Shoulder	AIR	PL	1	0.75	VM	1	**0**
A	SLM	Shoulder	AIR	PL	1	0.75	VM	2	**0**
A	SLM	Shoulder	AIR	PL	2	0.75	HB	1	**0**
A	SLM	Shoulder	AIR	PL	2	0.75	HB	2	**0**
A	SLM	Shoulder	AIR	PL	2	0.75	HS	1	**0**
A	SLM	Shoulder	AIR	PL	2	0.75	HS	2	**0**
A	SLM	Shoulder	AIR	PL	2	0.75	VM	1	**0**
A	SLM	Shoulder	AIR	PL	2	0.75	VM	2	**0**
A	SLM	Shoulder	JVT	AL	1	0.75	HB	1	**0**
A	SLM	Shoulder	JVT	AL	1	0.75	HB	2	**0**
A	SLM	Shoulder	JVT	AL	1	0.75	HS	1	**0**
A	SLM	Shoulder	JVT	AL	1	0.75	HS	2	**0**
A	SLM	Shoulder	JVT	AL	1	0.75	VM	1	**0**
A	SLM	Shoulder	JVT	AL	1	0.75	VM	2	**0**
A	SLM	Shoulder	JVT	AL	2	0.75	HB	1	**0**
A	SLM	Shoulder	JVT	AL	2	0.75	HB	2	**0**
A	SLM	Shoulder	JVT	AL	2	0.75	HS	1	**0**
A	SLM	Shoulder	JVT	AL	2	0.75	HS	2	**0**
A	SLM	Shoulder	JVT	AL	2	0.75	VM	1	**0**
A	SLM	Shoulder	JVT	AL	2	0.75	VM	2	**0**
A	SLM	Shoulder	SYV	AL	1	0.75	HB	1	**0**
A	SLM	Shoulder	SYV	AL	1	0.75	HB	2	**0**
A	SLM	Shoulder	SYV	AL	1	0.75	HS	1	**0**

A	SLM	Shoulder	SYV	AL	1	0.75	HS	2	**0**
A	SLM	Shoulder	SYV	AL	1	0.75	VM	1	**0**
A	SLM	Shoulder	SYV	AL	1	0.75	VM	2	**0**
A	SLM	Shoulder	SYV	AL	2	0.75	HB	1	**0**
A	SLM	Shoulder	SYV	AL	2	0.75	HB	2	**0**
A	SLM	Shoulder	SYV	AL	2	0.75	HS	1	**0**
A	SLM	Shoulder	SYV	AL	2	0.75	HS	2	**0**
A	SLM	Shoulder	SYV	AL	2	0.75	VM	1	**0**
A	SLM	Shoulder	SYV	AL	2	0.75	VM	2	**0**
A	SLM	Shoulder	IDL	AL	1	0.75	HB	1	**0**
A	SLM	Shoulder	IDL	AL	1	0.75	HB	2	**0**
A	SLM	Shoulder	IDL	AL	1	0.75	HS	1	**0**
A	SLM	Shoulder	IDL	AL	1	0.75	HS	2	**0**
A	SLM	Shoulder	IDL	AL	1	0.75	VM	1	**0**
A	SLM	Shoulder	IDL	AL	1	0.75	VM	2	**0**
A	SLM	Shoulder	IDL	AL	2	0.75	HB	1	**0**
A	SLM	Shoulder	IDL	AL	2	0.75	HB	2	**0**
A	SLM	Shoulder	IDL	AL	2	0.75	HS	1	**0**
A	SLM	Shoulder	IDL	AL	2	0.75	HS	2	**0**
A	SLM	Shoulder	IDL	AL	2	0.75	VM	1	**0**
A	SLM	Shoulder	IDL	AL	2	0.75	VM	2	**0**
A	SLM	Shoulder	ID3	UNA	1	0.75	HB	1	**0**
A	SLM	Shoulder	ID3	UNA	1	0.75	HB	2	**0**
A	SLM	Shoulder	ID3	UNA	1	0.75	HS	1	**0**
A	SLM	Shoulder	ID3	UNA	1	0.75	HS	2	**0**
A	SLM	Shoulder	ID3	UNA	1	0.75	VM	1	**0**
A	SLM	Shoulder	ID3	UNA	1	0.75	VM	2	**0**
A	SLM	Shoulder	ID3	UNA	2	0.75	HB	1	**0**
A	SLM	Shoulder	ID3	UNA	2	0.75	HB	2	**0**
A	SLM	Shoulder	ID3	UNA	2	0.75	HS	1	**0**
A	SLM	Shoulder	ID3	UNA	2	0.75	HS	2	**0**
A	SLM	Shoulder	ID3	UNA	2	0.75	VM	1	**0**
A	SLM	Shoulder	ID3	UNA	2	0.75	VM	2	**0**
A	SLM	Shoulder	JAP	PL	1	0.75	HB	1	**0**
A	SLM	Shoulder	JAP	PL	1	0.75	HB	2	**0**
A	SLM	Shoulder	JAP	PL	1	0.75	HS	1	**0**
A	SLM	Shoulder	JAP	PL	1	0.75	HS	2	**0**
A	SLM	Shoulder	JAP	PL	1	0.75	VM	1	**0**
A	SLM	Shoulder	JAP	PL	1	0.75	VM	2	**0**
A	SLM	Shoulder	JAP	PL	2	0.75	HB	1	**0**
A	SLM	Shoulder	JAP	PL	2	0.75	HB	2	**0**
A	SLM	Shoulder	JAP	PL	2	0.75	HS	1	**0**
A	SLM	Shoulder	JAP	PL	2	0.75	HS	2	**0**
A	SLM	Shoulder	JAP	PL	2	0.75	VM	1	**0**
A	SLM	Shoulder	JAP	PL	2	0.75	VM	2	**0**
A	ANX	Loin	BD	PL	1	0.75	HB	1	**1**
A	ANX	Loin	BD	PL	1	0.75	HB	2	**1**
A	ANX	Loin	BD	PL	1	0.75	HS	1	**1**
A	ANX	Loin	BD	PL	1	0.75	HS	2	**1**
A	ANX	Loin	BD	PL	1	0.75	VM	1	**1**

A	ANX	Loin	BD	PL	1	0.75	VM	2	**1**
A	ANX	Loin	BD	PL	2	0.75	HB	1	**1**
A	ANX	Loin	BD	PL	2	0.75	HB	2	**1**
A	ANX	Loin	BD	PL	2	0.75	HS	1	**1**
A	ANX	Loin	BD	PL	2	0.75	HS	2	**1**
A	ANX	Loin	BD	PL	2	0.75	VM	1	**1**
A	ANX	Loin	BD	PL	2	0.75	VM	2	**1**
A	ANX	Loin	FJT	PL	1	0.75	HB	1	**1**
A	ANX	Loin	FJT	PL	1	0.75	HB	2	**1**
A	ANX	Loin	FJT	PL	1	0.75	HS	1	**1**
A	ANX	Loin	FJT	PL	1	0.75	HS	2	**1**
A	ANX	Loin	FJT	PL	1	0.75	VM	1	**1**
A	ANX	Loin	FJT	PL	1	0.75	VM	2	**1**
A	ANX	Loin	FJT	PL	2	0.75	HB	1	**1**
A	ANX	Loin	FJT	PL	2	0.75	HB	2	**1**
A	ANX	Loin	FJT	PL	2	0.75	HS	1	**1**
A	ANX	Loin	FJT	PL	2	0.75	HS	2	**1**
A	ANX	Loin	FJT	PL	2	0.75	VM	1	**1**
A	ANX	Loin	FJT	PL	2	0.75	VM	2	**1**
A	ANX	Loin	AIR	PL	1	0.75	HB	1	**1**
A	ANX	Loin	AIR	PL	1	0.75	HB	2	**1**
A	ANX	Loin	AIR	PL	1	0.75	HS	1	**1**
A	ANX	Loin	AIR	PL	1	0.75	HS	2	**1**
A	ANX	Loin	AIR	PL	1	0.75	VM	1	**1**
A	ANX	Loin	AIR	PL	1	0.75	VM	2	**1**
A	ANX	Loin	AIR	PL	2	0.75	HB	1	**1**
A	ANX	Loin	AIR	PL	2	0.75	HB	2	**1**
A	ANX	Loin	AIR	PL	2	0.75	HS	1	**1**
A	ANX	Loin	AIR	PL	2	0.75	HS	2	**1**
A	ANX	Loin	AIR	PL	2	0.75	VM	1	**1**
A	ANX	Loin	AIR	PL	2	0.75	VM	2	**1**
A	ANX	Loin	JVT	AL	1	0.75	HB	1	**1**
A	ANX	Loin	JVT	AL	1	0.75	HB	2	**1**
A	ANX	Loin	JVT	AL	1	0.75	HS	1	**1**
A	ANX	Loin	JVT	AL	1	0.75	HS	2	**1**
A	ANX	Loin	JVT	AL	1	0.75	VM	1	**1**
A	ANX	Loin	JVT	AL	1	0.75	VM	2	**1**
A	ANX	Loin	JVT	AL	2	0.75	HB	1	**1**
A	ANX	Loin	JVT	AL	2	0.75	HB	2	**1**
A	ANX	Loin	JVT	AL	2	0.75	HS	1	**1**
A	ANX	Loin	JVT	AL	2	0.75	HS	2	**1**
A	ANX	Loin	JVT	AL	2	0.75	VM	1	**1**
A	ANX	Loin	JVT	AL	2	0.75	VM	2	**1**
A	ANX	Loin	SYV	AL	1	0.75	HB	1	**1**
A	ANX	Loin	SYV	AL	1	0.75	HB	2	**1**
A	ANX	Loin	SYV	AL	1	0.75	HS	1	**1**
A	ANX	Loin	SYV	AL	1	0.75	HS	2	**1**
A	ANX	Loin	SYV	AL	1	0.75	VM	1	**1**
A	ANX	Loin	SYV	AL	1	0.75	VM	2	**1**
A	ANX	Loin	SYV	AL	2	0.75	HB	1	**1**

A	ANX	Loin	SYV	AL	2	0.75	HB	2	**1**
A	ANX	Loin	SYV	AL	2	0.75	HS	1	**1**
A	ANX	Loin	SYV	AL	2	0.75	HS	2	**1**
A	ANX	Loin	SYV	AL	2	0.75	VM	1	**1**
A	ANX	Loin	SYV	AL	2	0.75	VM	2	**1**
A	ANX	Loin	IDL	AL	1	0.75	HB	1	**1**
A	ANX	Loin	IDL	AL	1	0.75	HB	2	**1**
A	ANX	Loin	IDL	AL	1	0.75	HS	1	**1**
A	ANX	Loin	IDL	AL	1	0.75	HS	2	**1**
A	ANX	Loin	IDL	AL	1	0.75	VM	1	**1**
A	ANX	Loin	IDL	AL	1	0.75	VM	2	**1**
A	ANX	Loin	IDL	AL	2	0.75	HB	1	**1**
A	ANX	Loin	IDL	AL	2	0.75	HB	2	**1**
A	ANX	Loin	IDL	AL	2	0.75	HS	1	**1**
A	ANX	Loin	IDL	AL	2	0.75	HS	2	**1**
A	ANX	Loin	IDL	AL	2	0.75	VM	1	**1**
A	ANX	Loin	IDL	AL	2	0.75	VM	2	**1**
A	ANX	Loin	ID3	UNA	1	0.75	HB	1	**1**
A	ANX	Loin	ID3	UNA	1	0.75	HB	2	**1**
A	ANX	Loin	ID3	UNA	1	0.75	HS	1	**1**
A	ANX	Loin	ID3	UNA	1	0.75	HS	2	**1**
A	ANX	Loin	ID3	UNA	1	0.75	VM	1	**1**
A	ANX	Loin	ID3	UNA	1	0.75	VM	2	**1**
A	ANX	Loin	ID3	UNA	2	0.75	HB	1	**1**
A	ANX	Loin	ID3	UNA	2	0.75	HB	2	**1**
A	ANX	Loin	ID3	UNA	2	0.75	HS	1	**1**
A	ANX	Loin	ID3	UNA	2	0.75	HS	2	**1**
A	ANX	Loin	ID3	UNA	2	0.75	VM	1	**1**
A	ANX	Loin	ID3	UNA	2	0.75	VM	2	**1**
A	ANX	Loin	JAP	PL	1	0.75	HB	1	**1**
A	ANX	Loin	JAP	PL	1	0.75	HB	2	**1**
A	ANX	Loin	JAP	PL	1	0.75	HS	1	**1**
A	ANX	Loin	JAP	PL	1	0.75	HS	2	**1**
A	ANX	Loin	JAP	PL	1	0.75	VM	1	**1**
A	ANX	Loin	JAP	PL	1	0.75	VM	2	**1**
A	ANX	Loin	JAP	PL	2	0.75	HB	1	**1**
A	ANX	Loin	JAP	PL	2	0.75	HB	2	**1**
A	ANX	Loin	JAP	PL	2	0.75	HS	1	**1**
A	ANX	Loin	JAP	PL	2	0.75	HS	2	**1**
A	ANX	Loin	JAP	PL	2	0.75	VM	1	**1**
A	ANX	Loin	JAP	PL	2	0.75	VM	2	**1**
A	ANX	Shoulder	BD	PL	1	0.75	HB	1	**1**
A	ANX	Shoulder	BD	PL	1	0.75	HB	2	**0**
A	ANX	Shoulder	BD	PL	1	0.75	HS	1	**0**
A	ANX	Shoulder	BD	PL	1	0.75	HS	2	**0**
A	ANX	Shoulder	BD	PL	1	0.75	VM	1	**1**
A	ANX	Shoulder	BD	PL	1	0.75	VM	2	**1**
A	ANX	Shoulder	BD	PL	2	0.75	HB	1	**0**
A	ANX	Shoulder	BD	PL	2	0.75	HB	2	**1**
A	ANX	Shoulder	BD	PL	2	0.75	HS	1	**0**

A	ANX	Shoulder	BD	PL	2	0.75	HS	2	**0**
A	ANX	Shoulder	BD	PL	2	0.75	VM	1	**1**
A	ANX	Shoulder	BD	PL	2	0.75	VM	2	**1**
A	ANX	Shoulder	FJT	PL	1	0.75	HB	1	**0**
A	ANX	Shoulder	FJT	PL	1	0.75	HB	2	**0**
A	ANX	Shoulder	FJT	PL	1	0.75	HS	1	**0**
A	ANX	Shoulder	FJT	PL	1	0.75	HS	2	**0**
A	ANX	Shoulder	FJT	PL	1	0.75	VM	1	**1**
A	ANX	Shoulder	FJT	PL	1	0.75	VM	2	**1**
A	ANX	Shoulder	FJT	PL	2	0.75	HB	1	**1**
A	ANX	Shoulder	FJT	PL	2	0.75	HB	2	**0**
A	ANX	Shoulder	FJT	PL	2	0.75	HS	1	**0**
A	ANX	Shoulder	FJT	PL	2	0.75	HS	2	**0**
A	ANX	Shoulder	FJT	PL	2	0.75	VM	1	**1**
A	ANX	Shoulder	FJT	PL	2	0.75	VM	2	**1**
A	ANX	Shoulder	AIR	PL	1	0.75	HB	1	**1**
A	ANX	Shoulder	AIR	PL	1	0.75	HB	2	**1**
A	ANX	Shoulder	AIR	PL	1	0.75	HS	1	**0**
A	ANX	Shoulder	AIR	PL	1	0.75	HS	2	**1**
A	ANX	Shoulder	AIR	PL	1	0.75	VM	1	**1**
A	ANX	Shoulder	AIR	PL	1	0.75	VM	2	**1**
A	ANX	Shoulder	AIR	PL	2	0.75	HB	1	**0**
A	ANX	Shoulder	AIR	PL	2	0.75	HB	2	**0**
A	ANX	Shoulder	AIR	PL	2	0.75	HS	1	**1**
A	ANX	Shoulder	AIR	PL	2	0.75	HS	2	**1**
A	ANX	Shoulder	AIR	PL	2	0.75	VM	1	**1**
A	ANX	Shoulder	AIR	PL	2	0.75	VM	2	**1**
A	ANX	Shoulder	JVT	AL	1	0.75	HB	1	**1**
A	ANX	Shoulder	JVT	AL	1	0.75	HB	2	**1**
A	ANX	Shoulder	JVT	AL	1	0.75	HS	1	**1**
A	ANX	Shoulder	JVT	AL	1	0.75	HS	2	**1**
A	ANX	Shoulder	JVT	AL	1	0.75	VM	1	**1**
A	ANX	Shoulder	JVT	AL	1	0.75	VM	2	**1**
A	ANX	Shoulder	JVT	AL	2	0.75	HB	1	**1**
A	ANX	Shoulder	JVT	AL	2	0.75	HB	2	**1**
A	ANX	Shoulder	JVT	AL	2	0.75	HS	1	**0**
A	ANX	Shoulder	JVT	AL	2	0.75	HS	2	**0**
A	ANX	Shoulder	JVT	AL	2	0.75	VM	1	**1**
A	ANX	Shoulder	JVT	AL	2	0.75	VM	2	**1**
A	ANX	Shoulder	SYV	AL	1	0.75	HB	1	**1**
A	ANX	Shoulder	SYV	AL	1	0.75	HB	2	**1**
A	ANX	Shoulder	SYV	AL	1	0.75	HS	1	**0**
A	ANX	Shoulder	SYV	AL	1	0.75	HS	2	**1**
A	ANX	Shoulder	SYV	AL	1	0.75	VM	1	**1**
A	ANX	Shoulder	SYV	AL	1	0.75	VM	2	**1**
A	ANX	Shoulder	SYV	AL	2	0.75	HB	1	**0**
A	ANX	Shoulder	SYV	AL	2	0.75	HB	2	**0**
A	ANX	Shoulder	SYV	AL	2	0.75	HS	1	**0**
A	ANX	Shoulder	SYV	AL	2	0.75	HS	2	**0**
A	ANX	Shoulder	SYV	AL	2	0.75	VM	1	**1**

A	ANX	Shoulder	SYV	AL	2	0.75	VM	2	**1**
A	ANX	Shoulder	IDL	AL	1	0.75	HB	1	**0**
A	ANX	Shoulder	IDL	AL	1	0.75	HB	2	**0**
A	ANX	Shoulder	IDL	AL	1	0.75	HS	1	**0**
A	ANX	Shoulder	IDL	AL	1	0.75	HS	2	**0**
A	ANX	Shoulder	IDL	AL	1	0.75	VM	1	**1**
A	ANX	Shoulder	IDL	AL	1	0.75	VM	2	**1**
A	ANX	Shoulder	IDL	AL	2	0.75	HB	1	**0**
A	ANX	Shoulder	IDL	AL	2	0.75	HB	2	**1**
A	ANX	Shoulder	IDL	AL	2	0.75	HS	1	**0**
A	ANX	Shoulder	IDL	AL	2	0.75	HS	2	**0**
A	ANX	Shoulder	IDL	AL	2	0.75	VM	1	**1**
A	ANX	Shoulder	IDL	AL	2	0.75	VM	2	**1**
A	ANX	Shoulder	ID3	UNA	1	0.75	HB	1	**1**
A	ANX	Shoulder	ID3	UNA	1	0.75	HB	2	**1**
A	ANX	Shoulder	ID3	UNA	1	0.75	HS	1	**1**
A	ANX	Shoulder	ID3	UNA	1	0.75	HS	2	**1**
A	ANX	Shoulder	ID3	UNA	1	0.75	VM	1	**1**
A	ANX	Shoulder	ID3	UNA	1	0.75	VM	2	**1**
A	ANX	Shoulder	ID3	UNA	2	0.75	HB	1	**1**
A	ANX	Shoulder	ID3	UNA	2	0.75	HB	2	**1**
A	ANX	Shoulder	ID3	UNA	2	0.75	HS	1	**1**
A	ANX	Shoulder	ID3	UNA	2	0.75	HS	2	**1**
A	ANX	Shoulder	ID3	UNA	2	0.75	VM	1	**1**
A	ANX	Shoulder	ID3	UNA	2	0.75	VM	2	**1**
A	ANX	Shoulder	JAP	PL	1	0.75	HB	1	**1**
A	ANX	Shoulder	JAP	PL	1	0.75	HB	2	**1**
A	ANX	Shoulder	JAP	PL	1	0.75	HS	1	**1**
A	ANX	Shoulder	JAP	PL	1	0.75	HS	2	**0**
A	ANX	Shoulder	JAP	PL	1	0.75	VM	1	**1**
A	ANX	Shoulder	JAP	PL	1	0.75	VM	2	**1**
A	ANX	Shoulder	JAP	PL	2	0.75	HB	1	**1**
A	ANX	Shoulder	JAP	PL	2	0.75	HB	2	**1**
A	ANX	Shoulder	JAP	PL	2	0.75	HS	1	**0**
A	ANX	Shoulder	JAP	PL	2	0.75	HS	2	**0**
A	ANX	Shoulder	JAP	PL	2	0.75	VM	1	**1**
A	ANX	Shoulder	JAP	PL	2	0.75	VM	2	**1**
B	LOM	Loin	BD	PL	1	0.75	HB	1	**0**
B	LOM	Loin	BD	PL	1	0.75	HB	2	**0**
B	LOM	Loin	BD	PL	1	0.75	HS	1	**0**
B	LOM	Loin	BD	PL	1	0.75	HS	2	**0**
B	LOM	Loin	BD	PL	1	0.75	VM	1	**0**
B	LOM	Loin	BD	PL	1	0.75	VM	2	**0**
B	LOM	Loin	BD	PL	2	0.75	HB	1	**0**
B	LOM	Loin	BD	PL	2	0.75	HB	2	**0**
B	LOM	Loin	BD	PL	2	0.75	HS	1	**0**
B	LOM	Loin	BD	PL	2	0.75	HS	2	**0**
B	LOM	Loin	BD	PL	2	0.75	VM	1	**0**
B	LOM	Loin	BD	PL	2	0.75	VM	2	**0**
B	LOM	Loin	FJT	PL	1	0.75	HB	1	**1**

B	LOM	Loin	FJT	PL	1	0.75	HB	2	**1**
B	LOM	Loin	FJT	PL	1	0.75	HS	1	**0**
B	LOM	Loin	FJT	PL	1	0.75	HS	2	**0**
B	LOM	Loin	FJT	PL	1	0.75	VM	1	**0**
B	LOM	Loin	FJT	PL	1	0.75	VM	2	**0**
B	LOM	Loin	FJT	PL	2	0.75	HB	1	**0**
B	LOM	Loin	FJT	PL	2	0.75	HB	2	**0**
B	LOM	Loin	FJT	PL	2	0.75	HS	1	**0**
B	LOM	Loin	FJT	PL	2	0.75	HS	2	**0**
B	LOM	Loin	FJT	PL	2	0.75	VM	1	**0**
B	LOM	Loin	FJT	PL	2	0.75	VM	2	**0**
B	LOM	Loin	AIR	PL	1	0.75	HB	1	**1**
B	LOM	Loin	AIR	PL	1	0.75	HB	2	**1**
B	LOM	Loin	AIR	PL	1	0.75	HS	1	**0**
B	LOM	Loin	AIR	PL	1	0.75	HS	2	**0**
B	LOM	Loin	AIR	PL	1	0.75	VM	1	**0**
B	LOM	Loin	AIR	PL	1	0.75	VM	2	**0**
B	LOM	Loin	AIR	PL	2	0.75	HB	1	**1**
B	LOM	Loin	AIR	PL	2	0.75	HB	2	**1**
B	LOM	Loin	AIR	PL	2	0.75	HS	1	**0**
B	LOM	Loin	AIR	PL	2	0.75	HS	2	**0**
B	LOM	Loin	AIR	PL	2	0.75	VM	1	**0**
B	LOM	Loin	AIR	PL	2	0.75	VM	2	**0**
B	LOM	Loin	JVT	AL	1	0.75	HB	1	**0**
B	LOM	Loin	JVT	AL	1	0.75	HB	2	**0**
B	LOM	Loin	JVT	AL	1	0.75	HS	1	**0**
B	LOM	Loin	JVT	AL	1	0.75	HS	2	**0**
B	LOM	Loin	JVT	AL	1	0.75	VM	1	**0**
B	LOM	Loin	JVT	AL	1	0.75	VM	2	**0**
B	LOM	Loin	JVT	AL	2	0.75	HB	1	**0**
B	LOM	Loin	JVT	AL	2	0.75	HB	2	**0**
B	LOM	Loin	JVT	AL	2	0.75	HS	1	**0**
B	LOM	Loin	JVT	AL	2	0.75	HS	2	**0**
B	LOM	Loin	JVT	AL	2	0.75	VM	1	**0**
B	LOM	Loin	JVT	AL	2	0.75	VM	2	**0**
B	LOM	Loin	SYV	AL	1	0.75	HB	1	**1**
B	LOM	Loin	SYV	AL	1	0.75	HB	2	**1**
B	LOM	Loin	SYV	AL	1	0.75	HS	1	**0**
B	LOM	Loin	SYV	AL	1	0.75	HS	2	**0**
B	LOM	Loin	SYV	AL	1	0.75	VM	1	**0**
B	LOM	Loin	SYV	AL	1	0.75	VM	2	**0**
B	LOM	Loin	SYV	AL	2	0.75	HB	1	**0**
B	LOM	Loin	SYV	AL	2	0.75	HB	2	**0**
B	LOM	Loin	SYV	AL	2	0.75	HS	1	**0**
B	LOM	Loin	SYV	AL	2	0.75	HS	2	**0**
B	LOM	Loin	SYV	AL	2	0.75	VM	1	**0**
B	LOM	Loin	SYV	AL	2	0.75	VM	2	**0**
B	LOM	Loin	IDL	AL	1	0.75	HB	1	**0**
B	LOM	Loin	IDL	AL	1	0.75	HB	2	**0**
B	LOM	Loin	IDL	AL	1	0.75	HS	1	**0**

B	LOM	Loin	IDL	AL	1	0.75	HS	2	**0**
B	LOM	Loin	IDL	AL	1	0.75	VM	1	**0**
B	LOM	Loin	IDL	AL	1	0.75	VM	2	**0**
B	LOM	Loin	IDL	AL	2	0.75	HB	1	**0**
B	LOM	Loin	IDL	AL	2	0.75	HB	2	**0**
B	LOM	Loin	IDL	AL	2	0.75	HS	1	**0**
B	LOM	Loin	IDL	AL	2	0.75	HS	2	**0**
B	LOM	Loin	IDL	AL	2	0.75	VM	1	**0**
B	LOM	Loin	IDL	AL	2	0.75	VM	2	**0**
B	LOM	Loin	ID3	UNA	1	0.75	HB	1	**1**
B	LOM	Loin	ID3	UNA	1	0.75	HB	2	**1**
B	LOM	Loin	ID3	UNA	1	0.75	HS	1	**1**
B	LOM	Loin	ID3	UNA	1	0.75	HS	2	**1**
B	LOM	Loin	ID3	UNA	1	0.75	VM	1	**1**
B	LOM	Loin	ID3	UNA	1	0.75	VM	2	**1**
B	LOM	Loin	ID3	UNA	2	0.75	HB	1	**1**
B	LOM	Loin	ID3	UNA	2	0.75	HB	2	**1**
B	LOM	Loin	ID3	UNA	2	0.75	HS	1	**1**
B	LOM	Loin	ID3	UNA	2	0.75	HS	2	**1**
B	LOM	Loin	ID3	UNA	2	0.75	VM	1	**1**
B	LOM	Loin	ID3	UNA	2	0.75	VM	2	**1**
B	LOM	Loin	JAP	PL	1	0.75	HB	1	**0**
B	LOM	Loin	JAP	PL	1	0.75	HB	2	**0**
B	LOM	Loin	JAP	PL	1	0.75	HS	1	**0**
B	LOM	Loin	JAP	PL	1	0.75	HS	2	**0**
B	LOM	Loin	JAP	PL	1	0.75	VM	1	**0**
B	LOM	Loin	JAP	PL	1	0.75	VM	2	**0**
B	LOM	Loin	JAP	PL	2	0.75	HB	1	**0**
B	LOM	Loin	JAP	PL	2	0.75	HB	2	**0**
B	LOM	Loin	JAP	PL	2	0.75	HS	1	**0**
B	LOM	Loin	JAP	PL	2	0.75	HS	2	**0**
B	LOM	Loin	JAP	PL	2	0.75	VM	1	**0**
B	LOM	Loin	JAP	PL	2	0.75	VM	2	**0**
B	LOM	Shoulder	BD	PL	1	0.75	HB	1	**0**
B	LOM	Shoulder	BD	PL	1	0.75	HB	2	**0**
B	LOM	Shoulder	BD	PL	1	0.75	HS	1	**0**
B	LOM	Shoulder	BD	PL	1	0.75	HS	2	**0**
B	LOM	Shoulder	BD	PL	1	0.75	VM	1	**0**
B	LOM	Shoulder	BD	PL	1	0.75	VM	2	**0**
B	LOM	Shoulder	BD	PL	2	0.75	HB	1	**0**
B	LOM	Shoulder	BD	PL	2	0.75	HB	2	**0**
B	LOM	Shoulder	BD	PL	2	0.75	HS	1	**0**
B	LOM	Shoulder	BD	PL	2	0.75	HS	2	**0**
B	LOM	Shoulder	BD	PL	2	0.75	VM	1	**0**
B	LOM	Shoulder	BD	PL	2	0.75	VM	2	**0**
B	LOM	Shoulder	FJT	PL	1	0.75	HB	1	**1**
B	LOM	Shoulder	FJT	PL	1	0.75	HB	2	**1**
B	LOM	Shoulder	FJT	PL	1	0.75	HS	1	**0**
B	LOM	Shoulder	FJT	PL	1	0.75	HS	2	**0**
B	LOM	Shoulder	FJT	PL	1	0.75	VM	1	**0**

B	LOM	Shoulder	FJT	PL	1	0.75	VM	2	**0**
B	LOM	Shoulder	FJT	PL	2	0.75	HB	1	**0**
B	LOM	Shoulder	FJT	PL	2	0.75	HB	2	**0**
B	LOM	Shoulder	FJT	PL	2	0.75	HS	1	**0**
B	LOM	Shoulder	FJT	PL	2	0.75	HS	2	**0**
B	LOM	Shoulder	FJT	PL	2	0.75	VM	1	**0**
B	LOM	Shoulder	FJT	PL	2	0.75	VM	2	**0**
B	LOM	Shoulder	AIR	PL	1	0.75	HB	1	**1**
B	LOM	Shoulder	AIR	PL	1	0.75	HB	2	**1**
B	LOM	Shoulder	AIR	PL	1	0.75	HS	1	**0**
B	LOM	Shoulder	AIR	PL	1	0.75	HS	2	**0**
B	LOM	Shoulder	AIR	PL	1	0.75	VM	1	**0**
B	LOM	Shoulder	AIR	PL	1	0.75	VM	2	**0**
B	LOM	Shoulder	AIR	PL	2	0.75	HB	1	**1**
B	LOM	Shoulder	AIR	PL	2	0.75	HB	2	**1**
B	LOM	Shoulder	AIR	PL	2	0.75	HS	1	**0**
B	LOM	Shoulder	AIR	PL	2	0.75	HS	2	**0**
B	LOM	Shoulder	AIR	PL	2	0.75	VM	1	**0**
B	LOM	Shoulder	AIR	PL	2	0.75	VM	2	**0**
B	LOM	Shoulder	JVT	AL	1	0.75	HB	1	**0**
B	LOM	Shoulder	JVT	AL	1	0.75	HB	2	**0**
B	LOM	Shoulder	JVT	AL	1	0.75	HS	1	**0**
B	LOM	Shoulder	JVT	AL	1	0.75	HS	2	**0**
B	LOM	Shoulder	JVT	AL	1	0.75	VM	1	**0**
B	LOM	Shoulder	JVT	AL	1	0.75	VM	2	**0**
B	LOM	Shoulder	JVT	AL	2	0.75	HB	1	**0**
B	LOM	Shoulder	JVT	AL	2	0.75	HB	2	**0**
B	LOM	Shoulder	JVT	AL	2	0.75	HS	1	**0**
B	LOM	Shoulder	JVT	AL	2	0.75	HS	2	**0**
B	LOM	Shoulder	JVT	AL	2	0.75	VM	1	**0**
B	LOM	Shoulder	JVT	AL	2	0.75	VM	2	**0**
B	LOM	Shoulder	SYV	AL	1	0.75	HB	1	**0**
B	LOM	Shoulder	SYV	AL	1	0.75	HB	2	**0**
B	LOM	Shoulder	SYV	AL	1	0.75	HS	1	**0**
B	LOM	Shoulder	SYV	AL	1	0.75	HS	2	**0**
B	LOM	Shoulder	SYV	AL	1	0.75	VM	1	**0**
B	LOM	Shoulder	SYV	AL	1	0.75	VM	2	**0**
B	LOM	Shoulder	SYV	AL	2	0.75	HB	1	**0**
B	LOM	Shoulder	SYV	AL	2	0.75	HB	2	**0**
B	LOM	Shoulder	SYV	AL	2	0.75	HS	1	**0**
B	LOM	Shoulder	SYV	AL	2	0.75	HS	2	**0**
B	LOM	Shoulder	SYV	AL	2	0.75	VM	1	**0**
B	LOM	Shoulder	SYV	AL	2	0.75	VM	2	**0**
B	LOM	Shoulder	IDL	AL	1	0.75	HB	1	**0**
B	LOM	Shoulder	IDL	AL	1	0.75	HB	2	**0**
B	LOM	Shoulder	IDL	AL	1	0.75	HS	1	**0**
B	LOM	Shoulder	IDL	AL	1	0.75	HS	2	**0**
B	LOM	Shoulder	IDL	AL	1	0.75	VM	1	**0**
B	LOM	Shoulder	IDL	AL	1	0.75	VM	2	**0**
B	LOM	Shoulder	IDL	AL	2	0.75	HB	1	**0**

B	LOM	Shoulder	IDL	AL	2	0.75	HB	2	**0**
B	LOM	Shoulder	IDL	AL	2	0.75	HS	1	**0**
B	LOM	Shoulder	IDL	AL	2	0.75	HS	2	**0**
B	LOM	Shoulder	IDL	AL	2	0.75	VM	1	**0**
B	LOM	Shoulder	IDL	AL	2	0.75	VM	2	**0**
B	LOM	Shoulder	ID3	UNA	1	0.75	HB	1	**1**
B	LOM	Shoulder	ID3	UNA	1	0.75	HB	2	**1**
B	LOM	Shoulder	ID3	UNA	1	0.75	HS	1	**0**
B	LOM	Shoulder	ID3	UNA	1	0.75	HS	2	**0**
B	LOM	Shoulder	ID3	UNA	1	0.75	VM	1	**0**
B	LOM	Shoulder	ID3	UNA	1	0.75	VM	2	**0**
B	LOM	Shoulder	ID3	UNA	2	0.75	HB	1	**1**
B	LOM	Shoulder	ID3	UNA	2	0.75	HB	2	**1**
B	LOM	Shoulder	ID3	UNA	2	0.75	HS	1	**0**
B	LOM	Shoulder	ID3	UNA	2	0.75	HS	2	**0**
B	LOM	Shoulder	ID3	UNA	2	0.75	VM	1	**0**
B	LOM	Shoulder	ID3	UNA	2	0.75	VM	2	**1**
B	LOM	Shoulder	JAP	PL	1	0.75	HB	1	**0**
B	LOM	Shoulder	JAP	PL	1	0.75	HB	2	**0**
B	LOM	Shoulder	JAP	PL	1	0.75	HS	1	**0**
B	LOM	Shoulder	JAP	PL	1	0.75	HS	2	**0**
B	LOM	Shoulder	JAP	PL	1	0.75	VM	1	**0**
B	LOM	Shoulder	JAP	PL	1	0.75	VM	2	**0**
B	LOM	Shoulder	JAP	PL	2	0.75	HB	1	**0**
B	LOM	Shoulder	JAP	PL	2	0.75	HB	2	**0**
B	LOM	Shoulder	JAP	PL	2	0.75	HS	1	**0**
B	LOM	Shoulder	JAP	PL	2	0.75	HS	2	**0**
B	LOM	Shoulder	JAP	PL	2	0.75	VM	1	**0**
B	LOM	Shoulder	JAP	PL	2	0.75	VM	2	**0**
B	THS	CT Butt	BD	PL	1	0.75	HB	1	**0**
B	THS	CT Butt	BD	PL	1	0.75	HB	2	**0**
B	THS	CT Butt	BD	PL	1	0.75	HS	1	**0**
B	THS	CT Butt	BD	PL	1	0.75	HS	2	**0**
B	THS	CT Butt	BD	PL	1	0.75	VM	1	**0**
B	THS	CT Butt	BD	PL	1	0.75	VM	2	**0**
B	THS	CT Butt	BD	PL	2	0.75	HB	1	**0**
B	THS	CT Butt	BD	PL	2	0.75	HB	2	**0**
B	THS	CT Butt	BD	PL	2	0.75	HS	1	**0**
B	THS	CT Butt	BD	PL	2	0.75	HS	2	**0**
B	THS	CT Butt	BD	PL	2	0.75	VM	1	**0**
B	THS	CT Butt	BD	PL	2	0.75	VM	2	**0**
B	THS	CT Butt	FJT	PL	1	0.75	HB	1	**1**
B	THS	CT Butt	FJT	PL	1	0.75	HB	2	**1**
B	THS	CT Butt	FJT	PL	1	0.75	HS	1	**0**
B	THS	CT Butt	FJT	PL	1	0.75	HS	2	**0**
B	THS	CT Butt	FJT	PL	1	0.75	VM	1	**0**
B	THS	CT Butt	FJT	PL	1	0.75	VM	2	**0**
B	THS	CT Butt	FJT	PL	2	0.75	HB	1	**1**
B	THS	CT Butt	FJT	PL	2	0.75	HB	2	**0**
B	THS	CT Butt	FJT	PL	2	0.75	HS	1	**0**

B	THS	CT Butt	FJT	PL	2	0.75	HS	2	**0**
B	THS	CT Butt	FJT	PL	2	0.75	VM	1	**0**
B	THS	CT Butt	FJT	PL	2	0.75	VM	2	**0**
B	THS	CT Butt	AIR	PL	1	0.75	HB	1	**1**
B	THS	CT Butt	AIR	PL	1	0.75	HB	2	**1**
B	THS	CT Butt	AIR	PL	1	0.75	HS	1	**1**
B	THS	CT Butt	AIR	PL	1	0.75	HS	2	**1**
B	THS	CT Butt	AIR	PL	1	0.75	VM	1	**0**
B	THS	CT Butt	AIR	PL	1	0.75	VM	2	**0**
B	THS	CT Butt	AIR	PL	2	0.75	HB	1	**1**
B	THS	CT Butt	AIR	PL	2	0.75	HB	2	**1**
B	THS	CT Butt	AIR	PL	2	0.75	HS	1	**1**
B	THS	CT Butt	AIR	PL	2	0.75	HS	2	**1**
B	THS	CT Butt	AIR	PL	2	0.75	VM	1	**0**
B	THS	CT Butt	AIR	PL	2	0.75	VM	2	**0**
B	THS	CT Butt	JVT	AL	1	0.75	HB	1	**0**
B	THS	CT Butt	JVT	AL	1	0.75	HB	2	**1**
B	THS	CT Butt	JVT	AL	1	0.75	HS	1	**0**
B	THS	CT Butt	JVT	AL	1	0.75	HS	2	**0**
B	THS	CT Butt	JVT	AL	1	0.75	VM	1	**0**
B	THS	CT Butt	JVT	AL	1	0.75	VM	2	**0**
B	THS	CT Butt	JVT	AL	2	0.75	HB	1	**1**
B	THS	CT Butt	JVT	AL	2	0.75	HB	2	**1**
B	THS	CT Butt	JVT	AL	2	0.75	HS	1	**0**
B	THS	CT Butt	JVT	AL	2	0.75	HS	2	**0**
B	THS	CT Butt	JVT	AL	2	0.75	VM	1	**0**
B	THS	CT Butt	JVT	AL	2	0.75	VM	2	**0**
B	THS	CT Butt	SYV	AL	1	0.75	HB	1	**1**
B	THS	CT Butt	SYV	AL	1	0.75	HB	2	**1**
B	THS	CT Butt	SYV	AL	1	0.75	HS	1	**0**
B	THS	CT Butt	SYV	AL	1	0.75	HS	2	**0**
B	THS	CT Butt	SYV	AL	1	0.75	VM	1	**0**
B	THS	CT Butt	SYV	AL	1	0.75	VM	2	**0**
B	THS	CT Butt	SYV	AL	2	0.75	HB	1	**0**
B	THS	CT Butt	SYV	AL	2	0.75	HB	2	**1**
B	THS	CT Butt	SYV	AL	2	0.75	HS	1	**0**
B	THS	CT Butt	SYV	AL	2	0.75	HS	2	**0**
B	THS	CT Butt	SYV	AL	2	0.75	VM	1	**0**
B	THS	CT Butt	SYV	AL	2	0.75	VM	2	**0**
B	THS	CT Butt	IDL	AL	1	0.75	HB	1	**0**
B	THS	CT Butt	IDL	AL	1	0.75	HB	2	**0**
B	THS	CT Butt	IDL	AL	1	0.75	HS	1	**0**
B	THS	CT Butt	IDL	AL	1	0.75	HS	2	**0**
B	THS	CT Butt	IDL	AL	1	0.75	VM	1	**0**
B	THS	CT Butt	IDL	AL	1	0.75	VM	2	**0**
B	THS	CT Butt	IDL	AL	2	0.75	HB	1	**0**
B	THS	CT Butt	IDL	AL	2	0.75	HB	2	**0**
B	THS	CT Butt	IDL	AL	2	0.75	HS	1	**0**
B	THS	CT Butt	IDL	AL	2	0.75	HS	2	**0**
B	THS	CT Butt	IDL	AL	2	0.75	VM	1	**0**

B	THS	CT Butt	IDL	AL	2	0.75	VM	2	**0**
B	THS	CT Butt	ID3	UNA	1	0.75	HB	1	**1**
B	THS	CT Butt	ID3	UNA	1	0.75	HB	2	**1**
B	THS	CT Butt	ID3	UNA	1	0.75	HS	1	**1**
B	THS	CT Butt	ID3	UNA	1	0.75	HS	2	**1**
B	THS	CT Butt	ID3	UNA	1	0.75	VM	1	**1**
B	THS	CT Butt	ID3	UNA	1	0.75	VM	2	**1**
B	THS	CT Butt	ID3	UNA	2	0.75	HB	1	**1**
B	THS	CT Butt	ID3	UNA	2	0.75	HB	2	**1**
B	THS	CT Butt	ID3	UNA	2	0.75	HS	1	**1**
B	THS	CT Butt	ID3	UNA	2	0.75	HS	2	**1**
B	THS	CT Butt	ID3	UNA	2	0.75	VM	1	**1**
B	THS	CT Butt	ID3	UNA	2	0.75	VM	2	**1**
B	THS	CT Butt	JAP	PL	1	0.75	HB	1	**0**
B	THS	CT Butt	JAP	PL	1	0.75	HB	2	**0**
B	THS	CT Butt	JAP	PL	1	0.75	HS	1	**0**
B	THS	CT Butt	JAP	PL	1	0.75	HS	2	**0**
B	THS	CT Butt	JAP	PL	1	0.75	VM	1	**0**
B	THS	CT Butt	JAP	PL	1	0.75	VM	2	**0**
B	THS	CT Butt	JAP	PL	2	0.75	HB	1	**0**
B	THS	CT Butt	JAP	PL	2	0.75	HB	2	**0**
B	THS	CT Butt	JAP	PL	2	0.75	HS	1	**0**
B	THS	CT Butt	JAP	PL	2	0.75	HS	2	**0**
B	THS	CT Butt	JAP	PL	2	0.75	VM	1	**0**
B	THS	CT Butt	JAP	PL	2	0.75	VM	2	**0**
B	FOSS	Trim Blend	BD	PL	1	0.75	HB	1	**0**
B	FOSS	Trim Blend	BD	PL	1	0.75	HB	2	**0**
B	FOSS	Trim Blend	BD	PL	1	0.75	HS	1	**0**
B	FOSS	Trim Blend	BD	PL	1	0.75	HS	2	**0**
B	FOSS	Trim Blend	BD	PL	1	0.75	VM	1	**1**
B	FOSS	Trim Blend	BD	PL	1	0.75	VM	2	**0**
B	FOSS	Trim Blend	BD	PL	2	0.75	HB	1	**0**
B	FOSS	Trim Blend	BD	PL	2	0.75	HB	2	**0**
B	FOSS	Trim Blend	BD	PL	2	0.75	HS	1	**0**
B	FOSS	Trim Blend	BD	PL	2	0.75	HS	2	**0**
B	FOSS	Trim Blend	BD	PL	2	0.75	VM	1	**1**
B	FOSS	Trim Blend	BD	PL	2	0.75	VM	2	**0**
B	FOSS	Trim Blend	FJT	PL	1	0.75	HB	1	**0**
B	FOSS	Trim Blend	FJT	PL	1	0.75	HB	2	**0**
B	FOSS	Trim Blend	FJT	PL	1	0.75	HS	1	**0**
B	FOSS	Trim Blend	FJT	PL	1	0.75	HS	2	**0**
B	FOSS	Trim Blend	FJT	PL	1	0.75	VM	1	**0**
B	FOSS	Trim Blend	FJT	PL	1	0.75	VM	2	**0**
B	FOSS	Trim Blend	FJT	PL	2	0.75	HB	1	**0**
B	FOSS	Trim Blend	FJT	PL	2	0.75	HB	2	**0**
B	FOSS	Trim Blend	FJT	PL	2	0.75	HS	1	**0**
B	FOSS	Trim Blend	FJT	PL	2	0.75	HS	2	**0**
B	FOSS	Trim Blend	FJT	PL	2	0.75	VM	1	**0**
B	FOSS	Trim Blend	FJT	PL	2	0.75	VM	2	**0**
B	FOSS	Trim Blend	AIR	PL	1	0.75	HB	1	**0**

B	FOSS	Trim Blend	AIR	PL	1	0.75	HB	2	**0**
B	FOSS	Trim Blend	AIR	PL	1	0.75	HS	1	**0**
B	FOSS	Trim Blend	AIR	PL	1	0.75	HS	2	**0**
B	FOSS	Trim Blend	AIR	PL	1	0.75	VM	1	**0**
B	FOSS	Trim Blend	AIR	PL	1	0.75	VM	2	**0**
B	FOSS	Trim Blend	AIR	PL	2	0.75	HB	1	**0**
B	FOSS	Trim Blend	AIR	PL	2	0.75	HB	2	**0**
B	FOSS	Trim Blend	AIR	PL	2	0.75	HS	1	**0**
B	FOSS	Trim Blend	AIR	PL	2	0.75	HS	2	**0**
B	FOSS	Trim Blend	AIR	PL	2	0.75	VM	1	**0**
B	FOSS	Trim Blend	AIR	PL	2	0.75	VM	2	**0**
B	FOSS	Trim Blend	JVT	AL	1	0.75	HB	1	**0**
B	FOSS	Trim Blend	JVT	AL	1	0.75	HB	2	**0**
B	FOSS	Trim Blend	JVT	AL	1	0.75	HS	1	**0**
B	FOSS	Trim Blend	JVT	AL	1	0.75	HS	2	**0**
B	FOSS	Trim Blend	JVT	AL	1	0.75	VM	1	**1**
B	FOSS	Trim Blend	JVT	AL	1	0.75	VM	2	**0**
B	FOSS	Trim Blend	JVT	AL	2	0.75	HB	1	**0**
B	FOSS	Trim Blend	JVT	AL	2	0.75	HB	2	**0**
B	FOSS	Trim Blend	JVT	AL	2	0.75	HS	1	**0**
B	FOSS	Trim Blend	JVT	AL	2	0.75	HS	2	**0**
B	FOSS	Trim Blend	JVT	AL	2	0.75	VM	1	**0**
B	FOSS	Trim Blend	JVT	AL	2	0.75	VM	2	**0**
B	FOSS	Trim Blend	SYV	AL	1	0.75	HB	1	**0**
B	FOSS	Trim Blend	SYV	AL	1	0.75	HB	2	**0**
B	FOSS	Trim Blend	SYV	AL	1	0.75	HS	1	**0**
B	FOSS	Trim Blend	SYV	AL	1	0.75	HS	2	**0**
B	FOSS	Trim Blend	SYV	AL	1	0.75	VM	1	**0**
B	FOSS	Trim Blend	SYV	AL	1	0.75	VM	2	**0**
B	FOSS	Trim Blend	SYV	AL	2	0.75	HB	1	**0**
B	FOSS	Trim Blend	SYV	AL	2	0.75	HB	2	**0**
B	FOSS	Trim Blend	SYV	AL	2	0.75	HS	1	**0**
B	FOSS	Trim Blend	SYV	AL	2	0.75	HS	2	**0**
B	FOSS	Trim Blend	SYV	AL	2	0.75	VM	1	**0**
B	FOSS	Trim Blend	SYV	AL	2	0.75	VM	2	**0**
B	FOSS	Trim Blend	IDL	AL	1	0.75	HB	1	**0**
B	FOSS	Trim Blend	IDL	AL	1	0.75	HB	2	**0**
B	FOSS	Trim Blend	IDL	AL	1	0.75	HS	1	**0**
B	FOSS	Trim Blend	IDL	AL	1	0.75	HS	2	**0**
B	FOSS	Trim Blend	IDL	AL	1	0.75	VM	1	**0**
B	FOSS	Trim Blend	IDL	AL	1	0.75	VM	2	**0**
B	FOSS	Trim Blend	IDL	AL	2	0.75	HB	1	**0**
B	FOSS	Trim Blend	IDL	AL	2	0.75	HB	2	**0**
B	FOSS	Trim Blend	IDL	AL	2	0.75	HS	1	**0**
B	FOSS	Trim Blend	IDL	AL	2	0.75	HS	2	**0**
B	FOSS	Trim Blend	IDL	AL	2	0.75	VM	1	**0**
B	FOSS	Trim Blend	IDL	AL	2	0.75	VM	2	**0**
B	FOSS	Trim Blend	ID3	UNA	1	0.75	HB	1	**0**
B	FOSS	Trim Blend	ID3	UNA	1	0.75	HB	2	**0**
B	FOSS	Trim Blend	ID3	UNA	1	0.75	HS	1	**0**

B	FOSS	Trim Blend	ID3	UNA	1	0.75	HS	2	**0**
B	FOSS	Trim Blend	ID3	UNA	1	0.75	VM	1	**1**
B	FOSS	Trim Blend	ID3	UNA	1	0.75	VM	2	**1**
B	FOSS	Trim Blend	ID3	UNA	2	0.75	HB	1	**0**
B	FOSS	Trim Blend	ID3	UNA	2	0.75	HB	2	**0**
B	FOSS	Trim Blend	ID3	UNA	2	0.75	HS	1	**0**
B	FOSS	Trim Blend	ID3	UNA	2	0.75	HS	2	**0**
B	FOSS	Trim Blend	ID3	UNA	2	0.75	VM	1	**1**
B	FOSS	Trim Blend	ID3	UNA	2	0.75	VM	2	**1**
B	FOSS	Trim Blend	JAP	PL	1	0.75	HB	1	**0**
B	FOSS	Trim Blend	JAP	PL	1	0.75	HB	2	**0**
B	FOSS	Trim Blend	JAP	PL	1	0.75	HS	1	**0**
B	FOSS	Trim Blend	JAP	PL	1	0.75	HS	2	**0**
B	FOSS	Trim Blend	JAP	PL	1	0.75	VM	1	**1**
B	FOSS	Trim Blend	JAP	PL	1	0.75	VM	2	**1**
B	FOSS	Trim Blend	JAP	PL	2	0.75	HB	1	**0**
B	FOSS	Trim Blend	JAP	PL	2	0.75	HB	2	**0**
B	FOSS	Trim Blend	JAP	PL	2	0.75	HS	1	**0**
B	FOSS	Trim Blend	JAP	PL	2	0.75	HS	2	**0**
B	FOSS	Trim Blend	JAP	PL	2	0.75	VM	1	**1**
B	FOSS	Trim Blend	JAP	PL	2	0.75	VM	2	**0**
B	THS	CVA Roast	BD	PL	1	0.75	HB	1	**0**
B	THS	CVA Roast	BD	PL	1	0.75	HB	2	**0**
B	THS	CVA Roast	BD	PL	1	0.75	HS	1	**0**
B	THS	CVA Roast	BD	PL	1	0.75	HS	2	**0**
B	THS	CVA Roast	BD	PL	1	0.75	VM	1	**0**
B	THS	CVA Roast	BD	PL	1	0.75	VM	2	**0**
B	THS	CVA Roast	BD	PL	2	0.75	HB	1	**0**
B	THS	CVA Roast	BD	PL	2	0.75	HB	2	**0**
B	THS	CVA Roast	BD	PL	2	0.75	HS	1	**0**
B	THS	CVA Roast	BD	PL	2	0.75	HS	2	**0**
B	THS	CVA Roast	BD	PL	2	0.75	VM	1	**0**
B	THS	CVA Roast	BD	PL	2	0.75	VM	2	**0**
B	THS	CVA Roast	FJT	PL	1	0.75	HB	1	**1**
B	THS	CVA Roast	FJT	PL	1	0.75	HB	2	**1**
B	THS	CVA Roast	FJT	PL	1	0.75	HS	1	**0**
B	THS	CVA Roast	FJT	PL	1	0.75	HS	2	**0**
B	THS	CVA Roast	FJT	PL	1	0.75	VM	1	**0**
B	THS	CVA Roast	FJT	PL	1	0.75	VM	2	**0**
B	THS	CVA Roast	FJT	PL	2	0.75	HB	1	**1**
B	THS	CVA Roast	FJT	PL	2	0.75	HB	2	**1**
B	THS	CVA Roast	FJT	PL	2	0.75	HS	1	**0**
B	THS	CVA Roast	FJT	PL	2	0.75	HS	2	**0**
B	THS	CVA Roast	FJT	PL	2	0.75	VM	1	**0**
B	THS	CVA Roast	FJT	PL	2	0.75	VM	2	**0**
B	THS	CVA Roast	AIR	PL	1	0.75	HB	1	**1**
B	THS	CVA Roast	AIR	PL	1	0.75	HB	2	**1**
B	THS	CVA Roast	AIR	PL	1	0.75	HS	1	**1**
B	THS	CVA Roast	AIR	PL	1	0.75	HS	2	**0**
B	THS	CVA Roast	AIR	PL	1	0.75	VM	1	**0**

B	THS	CVA Roast	AIR	PL	1	0.75	VM	2	**1**
B	THS	CVA Roast	AIR	PL	2	0.75	HB	1	**1**
B	THS	CVA Roast	AIR	PL	2	0.75	HB	2	**1**
B	THS	CVA Roast	AIR	PL	2	0.75	HS	1	**0**
B	THS	CVA Roast	AIR	PL	2	0.75	HS	2	**0**
B	THS	CVA Roast	AIR	PL	2	0.75	VM	1	**0**
B	THS	CVA Roast	AIR	PL	2	0.75	VM	2	**0**
B	THS	CVA Roast	JVT	AL	1	0.75	HB	1	**1**
B	THS	CVA Roast	JVT	AL	1	0.75	HB	2	**1**
B	THS	CVA Roast	JVT	AL	1	0.75	HS	1	**0**
B	THS	CVA Roast	JVT	AL	1	0.75	HS	2	**0**
B	THS	CVA Roast	JVT	AL	1	0.75	VM	1	**0**
B	THS	CVA Roast	JVT	AL	1	0.75	VM	2	**0**
B	THS	CVA Roast	JVT	AL	2	0.75	HB	1	**1**
B	THS	CVA Roast	JVT	AL	2	0.75	HB	2	**1**
B	THS	CVA Roast	JVT	AL	2	0.75	HS	1	**0**
B	THS	CVA Roast	JVT	AL	2	0.75	HS	2	**0**
B	THS	CVA Roast	JVT	AL	2	0.75	VM	1	**0**
B	THS	CVA Roast	JVT	AL	2	0.75	VM	2	**0**
B	THS	CVA Roast	SYV	AL	1	0.75	HB	1	**1**
B	THS	CVA Roast	SYV	AL	1	0.75	HB	2	**1**
B	THS	CVA Roast	SYV	AL	1	0.75	HS	1	**0**
B	THS	CVA Roast	SYV	AL	1	0.75	HS	2	**0**
B	THS	CVA Roast	SYV	AL	1	0.75	VM	1	**0**
B	THS	CVA Roast	SYV	AL	1	0.75	VM	2	**0**
B	THS	CVA Roast	SYV	AL	2	0.75	HB	1	**1**
B	THS	CVA Roast	SYV	AL	2	0.75	HB	2	**1**
B	THS	CVA Roast	SYV	AL	2	0.75	HS	1	**0**
B	THS	CVA Roast	SYV	AL	2	0.75	HS	2	**0**
B	THS	CVA Roast	SYV	AL	2	0.75	VM	1	**0**
B	THS	CVA Roast	SYV	AL	2	0.75	VM	2	**0**
B	THS	CVA Roast	IDL	AL	1	0.75	HB	1	**0**
B	THS	CVA Roast	IDL	AL	1	0.75	HB	2	**0**
B	THS	CVA Roast	IDL	AL	1	0.75	HS	1	**0**
B	THS	CVA Roast	IDL	AL	1	0.75	HS	2	**0**
B	THS	CVA Roast	IDL	AL	1	0.75	VM	1	**0**
B	THS	CVA Roast	IDL	AL	1	0.75	VM	2	**0**
B	THS	CVA Roast	IDL	AL	2	0.75	HB	1	**0**
B	THS	CVA Roast	IDL	AL	2	0.75	HB	2	**0**
B	THS	CVA Roast	IDL	AL	2	0.75	HS	1	**0**
B	THS	CVA Roast	IDL	AL	2	0.75	HS	2	**0**
B	THS	CVA Roast	IDL	AL	2	0.75	VM	1	**0**
B	THS	CVA Roast	IDL	AL	2	0.75	VM	2	**0**
B	THS	CVA Roast	ID3	UNA	1	0.75	HB	1	**1**
B	THS	CVA Roast	ID3	UNA	1	0.75	HB	2	**1**
B	THS	CVA Roast	ID3	UNA	1	0.75	HS	1	**1**
B	THS	CVA Roast	ID3	UNA	1	0.75	HS	2	**1**
B	THS	CVA Roast	ID3	UNA	1	0.75	VM	1	**1**
B	THS	CVA Roast	ID3	UNA	1	0.75	VM	2	**1**
B	THS	CVA Roast	ID3	UNA	2	0.75	HB	1	**1**

B	THS	CVA Roast	ID3	UNA	2	0.75	HB	2	**1**
B	THS	CVA Roast	ID3	UNA	2	0.75	HS	1	**1**
B	THS	CVA Roast	ID3	UNA	2	0.75	HS	2	**1**
B	THS	CVA Roast	ID3	UNA	2	0.75	VM	1	**1**
B	THS	CVA Roast	ID3	UNA	2	0.75	VM	2	**1**
B	THS	CVA Roast	JAP	PL	1	0.75	HB	1	**0**
B	THS	CVA Roast	JAP	PL	1	0.75	HB	2	**0**
B	THS	CVA Roast	JAP	PL	1	0.75	HS	1	**0**
B	THS	CVA Roast	JAP	PL	1	0.75	HS	2	**0**
B	THS	CVA Roast	JAP	PL	1	0.75	VM	1	**0**
B	THS	CVA Roast	JAP	PL	1	0.75	VM	2	**0**
B	THS	CVA Roast	JAP	PL	2	0.75	HB	1	**0**
B	THS	CVA Roast	JAP	PL	2	0.75	HB	2	**0**
B	THS	CVA Roast	JAP	PL	2	0.75	HS	1	**0**
B	THS	CVA Roast	JAP	PL	2	0.75	HS	2	**0**
B	THS	CVA Roast	JAP	PL	2	0.75	VM	1	**0**
B	THS	CVA Roast	JAP	PL	2	0.75	VM	2	**0**
C	SLX	Butt	BD	PL	1	0.75	HB	1	**0**
C	SLX	Butt	BD	PL	1	0.75	HB	2	**0**
C	SLX	Butt	BD	PL	1	0.75	HS	1	**0**
C	SLX	Butt	BD	PL	1	0.75	HS	2	**0**
C	SLX	Butt	BD	PL	1	0.75	VM	1	**1**
C	SLX	Butt	BD	PL	1	0.75	VM	2	**1**
C	SLX	Butt	BD	PL	2	0.75	HB	1	**0**
C	SLX	Butt	BD	PL	2	0.75	HB	2	**0**
C	SLX	Butt	BD	PL	2	0.75	HS	1	**0**
C	SLX	Butt	BD	PL	2	0.75	HS	2	**0**
C	SLX	Butt	BD	PL	2	0.75	VM	1	**1**
C	SLX	Butt	BD	PL	2	0.75	VM	2	**1**
C	SLX	Butt	FJT	PL	1	0.75	HB	1	**0**
C	SLX	Butt	FJT	PL	1	0.75	HB	2	**0**
C	SLX	Butt	FJT	PL	1	0.75	HS	1	**0**
C	SLX	Butt	FJT	PL	1	0.75	HS	2	**0**
C	SLX	Butt	FJT	PL	1	0.75	VM	1	**1**
C	SLX	Butt	FJT	PL	1	0.75	VM	2	**1**
C	SLX	Butt	FJT	PL	2	0.75	HB	1	**0**
C	SLX	Butt	FJT	PL	2	0.75	HB	2	**0**
C	SLX	Butt	FJT	PL	2	0.75	HS	1	**0**
C	SLX	Butt	FJT	PL	2	0.75	HS	2	**0**
C	SLX	Butt	FJT	PL	2	0.75	VM	1	**1**
C	SLX	Butt	FJT	PL	2	0.75	VM	2	**1**
C	SLX	Butt	AIR	PL	1	0.75	HB	1	**0**
C	SLX	Butt	AIR	PL	1	0.75	HB	2	**0**
C	SLX	Butt	AIR	PL	1	0.75	HS	1	**0**
C	SLX	Butt	AIR	PL	1	0.75	HS	2	**0**
C	SLX	Butt	AIR	PL	1	0.75	VM	1	**1**
C	SLX	Butt	AIR	PL	1	0.75	VM	2	**1**
C	SLX	Butt	AIR	PL	2	0.75	HB	1	**0**
C	SLX	Butt	AIR	PL	2	0.75	HB	2	**0**
C	SLX	Butt	AIR	PL	2	0.75	HS	1	**0**

C	SLX	Butt	AIR	PL	2	0.75	HS	2	**0**
C	SLX	Butt	AIR	PL	2	0.75	VM	1	**1**
C	SLX	Butt	AIR	PL	2	0.75	VM	2	**1**
C	SLX	Butt	JVT	AL	1	0.75	HB	1	**0**
C	SLX	Butt	JVT	AL	1	0.75	HB	2	**0**
C	SLX	Butt	JVT	AL	1	0.75	HS	1	**0**
C	SLX	Butt	JVT	AL	1	0.75	HS	2	**0**
C	SLX	Butt	JVT	AL	1	0.75	VM	1	**1**
C	SLX	Butt	JVT	AL	1	0.75	VM	2	**1**
C	SLX	Butt	JVT	AL	2	0.75	HB	1	**0**
C	SLX	Butt	JVT	AL	2	0.75	HB	2	**0**
C	SLX	Butt	JVT	AL	2	0.75	HS	1	**0**
C	SLX	Butt	JVT	AL	2	0.75	HS	2	**0**
C	SLX	Butt	JVT	AL	2	0.75	VM	1	**1**
C	SLX	Butt	JVT	AL	2	0.75	VM	2	**1**
C	SLX	Butt	SYV	AL	1	0.75	HB	1	**0**
C	SLX	Butt	SYV	AL	1	0.75	HB	2	**0**
C	SLX	Butt	SYV	AL	1	0.75	HS	1	**0**
C	SLX	Butt	SYV	AL	1	0.75	HS	2	**0**
C	SLX	Butt	SYV	AL	1	0.75	VM	1	**1**
C	SLX	Butt	SYV	AL	1	0.75	VM	2	**1**
C	SLX	Butt	SYV	AL	2	0.75	HB	1	**0**
C	SLX	Butt	SYV	AL	2	0.75	HB	2	**0**
C	SLX	Butt	SYV	AL	2	0.75	HS	1	**0**
C	SLX	Butt	SYV	AL	2	0.75	HS	2	**0**
C	SLX	Butt	SYV	AL	2	0.75	VM	1	**0**
C	SLX	Butt	SYV	AL	2	0.75	VM	2	**1**
C	SLX	Butt	IDL	AL	1	0.75	HB	1	**0**
C	SLX	Butt	IDL	AL	1	0.75	HB	2	**0**
C	SLX	Butt	IDL	AL	1	0.75	HS	1	**0**
C	SLX	Butt	IDL	AL	1	0.75	HS	2	**0**
C	SLX	Butt	IDL	AL	1	0.75	VM	1	**1**
C	SLX	Butt	IDL	AL	1	0.75	VM	2	**1**
C	SLX	Butt	IDL	AL	2	0.75	HB	1	**0**
C	SLX	Butt	IDL	AL	2	0.75	HB	2	**0**
C	SLX	Butt	IDL	AL	2	0.75	HS	1	**0**
C	SLX	Butt	IDL	AL	2	0.75	HS	2	**0**
C	SLX	Butt	IDL	AL	2	0.75	VM	1	**1**
C	SLX	Butt	IDL	AL	2	0.75	VM	2	**1**
C	SLX	Butt	ID3	UNA	1	0.75	HB	1	**1**
C	SLX	Butt	ID3	UNA	1	0.75	HB	2	**1**
C	SLX	Butt	ID3	UNA	1	0.75	HS	1	**0**
C	SLX	Butt	ID3	UNA	1	0.75	HS	2	**0**
C	SLX	Butt	ID3	UNA	1	0.75	VM	1	**1**
C	SLX	Butt	ID3	UNA	1	0.75	VM	2	**1**
C	SLX	Butt	ID3	UNA	2	0.75	HB	1	**1**
C	SLX	Butt	ID3	UNA	2	0.75	HB	2	**1**
C	SLX	Butt	ID3	UNA	2	0.75	HS	1	**0**
C	SLX	Butt	ID3	UNA	2	0.75	HS	2	**0**
C	SLX	Butt	ID3	UNA	2	0.75	VM	1	**1**

C	SLX	Butt	ID3	UNA	2	0.75	VM	2	**1**
C	SLX	Butt	JAP	PL	1	0.75	HB	1	**0**
C	SLX	Butt	JAP	PL	1	0.75	HB	2	**1**
C	SLX	Butt	JAP	PL	1	0.75	HS	1	**0**
C	SLX	Butt	JAP	PL	1	0.75	HS	2	**0**
C	SLX	Butt	JAP	PL	1	0.75	VM	1	**1**
C	SLX	Butt	JAP	PL	1	0.75	VM	2	**0**
C	SLX	Butt	JAP	PL	2	0.75	HB	1	**0**
C	SLX	Butt	JAP	PL	2	0.75	HB	2	**0**
C	SLX	Butt	JAP	PL	2	0.75	HS	1	**0**
C	SLX	Butt	JAP	PL	2	0.75	HS	2	**0**
C	SLX	Butt	JAP	PL	2	0.75	VM	1	**1**
C	SLX	Butt	JAP	PL	2	0.75	VM	2	**1**
D	SLM	Loin	BD	PL	1	0.75	HB	1	**0**
D	SLM	Loin	BD	PL	1	0.75	HB	2	**0**
D	SLM	Loin	BD	PL	1	0.75	HS	1	**0**
D	SLM	Loin	BD	PL	1	0.75	HS	2	**0**
D	SLM	Loin	BD	PL	1	0.75	VM	1	**0**
D	SLM	Loin	BD	PL	1	0.75	VM	2	**0**
D	SLM	Loin	BD	PL	2	0.75	HB	1	**0**
D	SLM	Loin	BD	PL	2	0.75	HB	2	**0**
D	SLM	Loin	BD	PL	2	0.75	HS	1	**0**
D	SLM	Loin	BD	PL	2	0.75	HS	2	**0**
D	SLM	Loin	BD	PL	2	0.75	VM	1	**0**
D	SLM	Loin	BD	PL	2	0.75	VM	2	**0**
D	SLM	Loin	FJT	PL	1	0.75	HB	1	**1**
D	SLM	Loin	FJT	PL	1	0.75	HB	2	**1**
D	SLM	Loin	FJT	PL	1	0.75	HS	1	**0**
D	SLM	Loin	FJT	PL	1	0.75	HS	2	**0**
D	SLM	Loin	FJT	PL	1	0.75	VM	1	**0**
D	SLM	Loin	FJT	PL	1	0.75	VM	2	**0**
D	SLM	Loin	FJT	PL	2	0.75	HB	1	**1**
D	SLM	Loin	FJT	PL	2	0.75	HB	2	**1**
D	SLM	Loin	FJT	PL	2	0.75	HS	1	**0**
D	SLM	Loin	FJT	PL	2	0.75	HS	2	**0**
D	SLM	Loin	FJT	PL	2	0.75	VM	1	**0**
D	SLM	Loin	FJT	PL	2	0.75	VM	2	**0**
D	SLM	Loin	AIR	PL	1	0.75	HB	1	**1**
D	SLM	Loin	AIR	PL	1	0.75	HB	2	**1**
D	SLM	Loin	AIR	PL	1	0.75	HS	1	**0**
D	SLM	Loin	AIR	PL	1	0.75	HS	2	**0**
D	SLM	Loin	AIR	PL	1	0.75	VM	1	**0**
D	SLM	Loin	AIR	PL	1	0.75	VM	2	**0**
D	SLM	Loin	AIR	PL	2	0.75	HB	1	**1**
D	SLM	Loin	AIR	PL	2	0.75	HB	2	**1**
D	SLM	Loin	AIR	PL	2	0.75	HS	1	**0**
D	SLM	Loin	AIR	PL	2	0.75	HS	2	**1**
D	SLM	Loin	AIR	PL	2	0.75	VM	1	**0**
D	SLM	Loin	AIR	PL	2	0.75	VM	2	**0**
D	SLM	Loin	JVT	AL	1	0.75	HB	1	**1**

D	SLM	Loin	JVT	AL	1	0.75	HB	2	**1**
D	SLM	Loin	JVT	AL	1	0.75	HS	1	**0**
D	SLM	Loin	JVT	AL	1	0.75	HS	2	**0**
D	SLM	Loin	JVT	AL	1	0.75	VM	1	**0**
D	SLM	Loin	JVT	AL	1	0.75	VM	2	**0**
D	SLM	Loin	JVT	AL	2	0.75	HB	1	**1**
D	SLM	Loin	JVT	AL	2	0.75	HB	2	**1**
D	SLM	Loin	JVT	AL	2	0.75	HS	1	**0**
D	SLM	Loin	JVT	AL	2	0.75	HS	2	**0**
D	SLM	Loin	JVT	AL	2	0.75	VM	1	**0**
D	SLM	Loin	JVT	AL	2	0.75	VM	2	**0**
D	SLM	Loin	SYV	AL	1	0.75	HB	1	**1**
D	SLM	Loin	SYV	AL	1	0.75	HB	2	**1**
D	SLM	Loin	SYV	AL	1	0.75	HS	1	**0**
D	SLM	Loin	SYV	AL	1	0.75	HS	2	**1**
D	SLM	Loin	SYV	AL	1	0.75	VM	1	**0**
D	SLM	Loin	SYV	AL	1	0.75	VM	2	**1**
D	SLM	Loin	SYV	AL	2	0.75	HB	1	**1**
D	SLM	Loin	SYV	AL	2	0.75	HB	2	**1**
D	SLM	Loin	SYV	AL	2	0.75	HS	1	**0**
D	SLM	Loin	SYV	AL	2	0.75	HS	2	**0**
D	SLM	Loin	SYV	AL	2	0.75	VM	1	**0**
D	SLM	Loin	SYV	AL	2	0.75	VM	2	**0**
D	SLM	Loin	IDL	AL	1	0.75	HB	1	**0**
D	SLM	Loin	IDL	AL	1	0.75	HB	2	**0**
D	SLM	Loin	IDL	AL	1	0.75	HS	1	**0**
D	SLM	Loin	IDL	AL	1	0.75	HS	2	**0**
D	SLM	Loin	IDL	AL	1	0.75	VM	1	**0**
D	SLM	Loin	IDL	AL	1	0.75	VM	2	**0**
D	SLM	Loin	IDL	AL	2	0.75	HB	1	**0**
D	SLM	Loin	IDL	AL	2	0.75	HB	2	**0**
D	SLM	Loin	IDL	AL	2	0.75	HS	1	**0**
D	SLM	Loin	IDL	AL	2	0.75	HS	2	**0**
D	SLM	Loin	IDL	AL	2	0.75	VM	1	**0**
D	SLM	Loin	IDL	AL	2	0.75	VM	2	**0**
D	SLM	Loin	ID3	UNA	1	0.75	HB	1	**1**
D	SLM	Loin	ID3	UNA	1	0.75	HB	2	**1**
D	SLM	Loin	ID3	UNA	1	0.75	HS	1	**1**
D	SLM	Loin	ID3	UNA	1	0.75	HS	2	**1**
D	SLM	Loin	ID3	UNA	1	0.75	VM	1	**1**
D	SLM	Loin	ID3	UNA	1	0.75	VM	2	**1**
D	SLM	Loin	ID3	UNA	2	0.75	HB	1	**1**
D	SLM	Loin	ID3	UNA	2	0.75	HB	2	**1**
D	SLM	Loin	ID3	UNA	2	0.75	HS	1	**1**
D	SLM	Loin	ID3	UNA	2	0.75	HS	2	**1**
D	SLM	Loin	ID3	UNA	2	0.75	VM	1	**1**
D	SLM	Loin	ID3	UNA	2	0.75	VM	2	**1**
D	SLM	Loin	JAP	PL	1	0.75	HB	1	**0**
D	SLM	Loin	JAP	PL	1	0.75	HB	2	**0**
D	SLM	Loin	JAP	PL	1	0.75	HS	1	**0**

D	SLM	Loin	JAP	PL	1	0.75	HS	2	**0**
D	SLM	Loin	JAP	PL	1	0.75	VM	1	**0**
D	SLM	Loin	JAP	PL	1	0.75	VM	2	**0**
D	SLM	Loin	JAP	PL	2	0.75	HB	1	**0**
D	SLM	Loin	JAP	PL	2	0.75	HB	2	**0**
D	SLM	Loin	JAP	PL	2	0.75	HS	1	**0**
D	SLM	Loin	JAP	PL	2	0.75	HS	2	**0**
D	SLM	Loin	JAP	PL	2	0.75	VM	1	**0**
D	SLM	Loin	JAP	PL	2	0.75	VM	2	**0**
D	SLM	SLS_Sribs	BD	PL	1	0.75	HB	1	**0**
D	SLM	SLS_Sribs	BD	PL	1	0.75	HB	2	**0**
D	SLM	SLS_Sribs	BD	PL	1	0.75	HS	1	**0**
D	SLM	SLS_Sribs	BD	PL	1	0.75	HS	2	**0**
D	SLM	SLS_Sribs	BD	PL	1	0.75	VM	1	**0**
D	SLM	SLS_Sribs	BD	PL	1	0.75	VM	2	**0**
D	SLM	SLS_Sribs	BD	PL	2	0.75	HB	1	**0**
D	SLM	SLS_Sribs	BD	PL	2	0.75	HB	2	**0**
D	SLM	SLS_Sribs	BD	PL	2	0.75	HS	1	**0**
D	SLM	SLS_Sribs	BD	PL	2	0.75	HS	2	**0**
D	SLM	SLS_Sribs	BD	PL	2	0.75	VM	1	**0**
D	SLM	SLS_Sribs	BD	PL	2	0.75	VM	2	**0**
D	SLM	SLS_Sribs	FJT	PL	1	0.75	HB	1	**1**
D	SLM	SLS_Sribs	FJT	PL	1	0.75	HB	2	**1**
D	SLM	SLS_Sribs	FJT	PL	1	0.75	HS	1	**0**
D	SLM	SLS_Sribs	FJT	PL	1	0.75	HS	2	**0**
D	SLM	SLS_Sribs	FJT	PL	1	0.75	VM	1	**0**
D	SLM	SLS_Sribs	FJT	PL	1	0.75	VM	2	**0**
D	SLM	SLS_Sribs	FJT	PL	2	0.75	HB	1	**1**
D	SLM	SLS_Sribs	FJT	PL	2	0.75	HB	2	**0**
D	SLM	SLS_Sribs	FJT	PL	2	0.75	HS	1	**0**
D	SLM	SLS_Sribs	FJT	PL	2	0.75	HS	2	**0**
D	SLM	SLS_Sribs	FJT	PL	2	0.75	VM	1	**0**
D	SLM	SLS_Sribs	FJT	PL	2	0.75	VM	2	**0**
D	SLM	SLS_Sribs	AIR	PL	1	0.75	HB	1	**1**
D	SLM	SLS_Sribs	AIR	PL	1	0.75	HB	2	**1**
D	SLM	SLS_Sribs	AIR	PL	1	0.75	HS	1	**0**
D	SLM	SLS_Sribs	AIR	PL	1	0.75	HS	2	**0**
D	SLM	SLS_Sribs	AIR	PL	1	0.75	VM	1	**0**
D	SLM	SLS_Sribs	AIR	PL	1	0.75	VM	2	**0**
D	SLM	SLS_Sribs	AIR	PL	2	0.75	HB	1	**1**
D	SLM	SLS_Sribs	AIR	PL	2	0.75	HB	2	**1**
D	SLM	SLS_Sribs	AIR	PL	2	0.75	HS	1	**0**
D	SLM	SLS_Sribs	AIR	PL	2	0.75	HS	2	**0**
D	SLM	SLS_Sribs	AIR	PL	2	0.75	VM	1	**0**
D	SLM	SLS_Sribs	AIR	PL	2	0.75	VM	2	**0**
D	SLM	SLS_Sribs	JVT	AL	1	0.75	HB	1	**0**
D	SLM	SLS_Sribs	JVT	AL	1	0.75	HB	2	**1**
D	SLM	SLS_Sribs	JVT	AL	1	0.75	HS	1	**0**
D	SLM	SLS_Sribs	JVT	AL	1	0.75	HS	2	**0**
D	SLM	SLS_Sribs	JVT	AL	1	0.75	VM	1	**0**

D	SLM	SLS_Sribs	JVT	AL	1	0.75	VM	2	**0**
D	SLM	SLS_Sribs	JVT	AL	2	0.75	HB	1	**1**
D	SLM	SLS_Sribs	JVT	AL	2	0.75	HB	2	**1**
D	SLM	SLS_Sribs	JVT	AL	2	0.75	HS	1	**0**
D	SLM	SLS_Sribs	JVT	AL	2	0.75	HS	2	**0**
D	SLM	SLS_Sribs	JVT	AL	2	0.75	VM	1	**0**
D	SLM	SLS_Sribs	JVT	AL	2	0.75	VM	2	**0**
D	SLM	SLS_Sribs	SYV	AL	1	0.75	HB	1	**1**
D	SLM	SLS_Sribs	SYV	AL	1	0.75	HB	2	**1**
D	SLM	SLS_Sribs	SYV	AL	1	0.75	HS	1	**0**
D	SLM	SLS_Sribs	SYV	AL	1	0.75	HS	2	**0**
D	SLM	SLS_Sribs	SYV	AL	1	0.75	VM	1	**0**
D	SLM	SLS_Sribs	SYV	AL	1	0.75	VM	2	**0**
D	SLM	SLS_Sribs	SYV	AL	2	0.75	HB	1	**0**
D	SLM	SLS_Sribs	SYV	AL	2	0.75	HB	2	**1**
D	SLM	SLS_Sribs	SYV	AL	2	0.75	HS	1	**0**
D	SLM	SLS_Sribs	SYV	AL	2	0.75	HS	2	**0**
D	SLM	SLS_Sribs	SYV	AL	2	0.75	VM	1	**0**
D	SLM	SLS_Sribs	SYV	AL	2	0.75	VM	2	**0**
D	SLM	SLS_Sribs	IDL	AL	1	0.75	HB	1	**0**
D	SLM	SLS_Sribs	IDL	AL	1	0.75	HB	2	**0**
D	SLM	SLS_Sribs	IDL	AL	1	0.75	HS	1	**0**
D	SLM	SLS_Sribs	IDL	AL	1	0.75	HS	2	**0**
D	SLM	SLS_Sribs	IDL	AL	1	0.75	VM	1	**0**
D	SLM	SLS_Sribs	IDL	AL	1	0.75	VM	2	**0**
D	SLM	SLS_Sribs	IDL	AL	2	0.75	HB	1	**0**
D	SLM	SLS_Sribs	IDL	AL	2	0.75	HB	2	**0**
D	SLM	SLS_Sribs	IDL	AL	2	0.75	HS	1	**0**
D	SLM	SLS_Sribs	IDL	AL	2	0.75	HS	2	**0**
D	SLM	SLS_Sribs	IDL	AL	2	0.75	VM	1	**0**
D	SLM	SLS_Sribs	IDL	AL	2	0.75	VM	2	**0**
D	SLM	SLS_Sribs	ID3	UNA	1	0.75	HB	1	**1**
D	SLM	SLS_Sribs	ID3	UNA	1	0.75	HB	2	**1**
D	SLM	SLS_Sribs	ID3	UNA	1	0.75	HS	1	**1**
D	SLM	SLS_Sribs	ID3	UNA	1	0.75	HS	2	**1**
D	SLM	SLS_Sribs	ID3	UNA	1	0.75	VM	1	**1**
D	SLM	SLS_Sribs	ID3	UNA	1	0.75	VM	2	**1**
D	SLM	SLS_Sribs	ID3	UNA	2	0.75	HB	1	**1**
D	SLM	SLS_Sribs	ID3	UNA	2	0.75	HB	2	**1**
D	SLM	SLS_Sribs	ID3	UNA	2	0.75	HS	1	**1**
D	SLM	SLS_Sribs	ID3	UNA	2	0.75	HS	2	**1**
D	SLM	SLS_Sribs	ID3	UNA	2	0.75	VM	1	**1**
D	SLM	SLS_Sribs	ID3	UNA	2	0.75	VM	2	**1**
D	SLM	SLS_Sribs	JAP	PL	1	0.75	HB	1	**0**
D	SLM	SLS_Sribs	JAP	PL	1	0.75	HB	2	**0**
D	SLM	SLS_Sribs	JAP	PL	1	0.75	HS	1	**0**
D	SLM	SLS_Sribs	JAP	PL	1	0.75	HS	2	**0**
D	SLM	SLS_Sribs	JAP	PL	1	0.75	VM	1	**0**
D	SLM	SLS_Sribs	JAP	PL	1	0.75	VM	2	**0**
D	SLM	SLS_Sribs	JAP	PL	2	0.75	HB	1	**0**

D	SLM	SLS_Sribs	JAP	PL	2	0.75	HB	2	**0**
D	SLM	SLS_Sribs	JAP	PL	2	0.75	HS	1	**0**
D	SLM	SLS_Sribs	JAP	PL	2	0.75	HS	2	**0**
D	SLM	SLS_Sribs	JAP	PL	2	0.75	VM	1	**0**
D	SLM	SLS_Sribs	JAP	PL	2	0.75	VM	2	**0**
E	SLX	Collar Cut	BD	PL	1	0.75	HB	1	**1**
E	SLX	Collar Cut	BD	PL	1	0.75	HB	2	**1**
E	SLX	Collar Cut	BD	PL	1	0.75	HS	1	**1**
E	SLX	Collar Cut	BD	PL	1	0.75	HS	2	**1**
E	SLX	Collar Cut	BD	PL	1	0.75	VM	1	**1**
E	SLX	Collar Cut	BD	PL	1	0.75	VM	2	**1**
E	SLX	Collar Cut	BD	PL	2	0.75	HB	1	**1**
E	SLX	Collar Cut	BD	PL	2	0.75	HB	2	**1**
E	SLX	Collar Cut	BD	PL	2	0.75	HS	1	**1**
E	SLX	Collar Cut	BD	PL	2	0.75	HS	2	**1**
E	SLX	Collar Cut	BD	PL	2	0.75	VM	1	**1**
E	SLX	Collar Cut	BD	PL	2	0.75	VM	2	**1**
E	SLX	Collar Cut	FJT	PL	1	0.75	HB	1	**1**
E	SLX	Collar Cut	FJT	PL	1	0.75	HB	2	**1**
E	SLX	Collar Cut	FJT	PL	1	0.75	HS	1	**1**
E	SLX	Collar Cut	FJT	PL	1	0.75	HS	2	**1**
E	SLX	Collar Cut	FJT	PL	1	0.75	VM	1	**1**
E	SLX	Collar Cut	FJT	PL	1	0.75	VM	2	**1**
E	SLX	Collar Cut	FJT	PL	2	0.75	HB	1	**1**
E	SLX	Collar Cut	FJT	PL	2	0.75	HB	2	**1**
E	SLX	Collar Cut	FJT	PL	2	0.75	HS	1	**1**
E	SLX	Collar Cut	FJT	PL	2	0.75	HS	2	**1**
E	SLX	Collar Cut	FJT	PL	2	0.75	VM	1	**1**
E	SLX	Collar Cut	FJT	PL	2	0.75	VM	2	**1**
E	SLX	Collar Cut	AIR	PL	1	0.75	HB	1	**1**
E	SLX	Collar Cut	AIR	PL	1	0.75	HB	2	**1**
E	SLX	Collar Cut	AIR	PL	1	0.75	HS	1	**1**
E	SLX	Collar Cut	AIR	PL	1	0.75	HS	2	**1**
E	SLX	Collar Cut	AIR	PL	1	0.75	VM	1	**1**
E	SLX	Collar Cut	AIR	PL	1	0.75	VM	2	**1**
E	SLX	Collar Cut	AIR	PL	2	0.75	HB	1	**1**
E	SLX	Collar Cut	AIR	PL	2	0.75	HB	2	**1**
E	SLX	Collar Cut	AIR	PL	2	0.75	HS	1	**1**
E	SLX	Collar Cut	AIR	PL	2	0.75	HS	2	**1**
E	SLX	Collar Cut	AIR	PL	2	0.75	VM	1	**1**
E	SLX	Collar Cut	AIR	PL	2	0.75	VM	2	**1**
E	SLX	Collar Cut	JVT	AL	1	0.75	HB	1	**1**
E	SLX	Collar Cut	JVT	AL	1	0.75	HB	2	**1**
E	SLX	Collar Cut	JVT	AL	1	0.75	HS	1	**1**
E	SLX	Collar Cut	JVT	AL	1	0.75	HS	2	**1**
E	SLX	Collar Cut	JVT	AL	1	0.75	VM	1	**1**
E	SLX	Collar Cut	JVT	AL	1	0.75	VM	2	**1**
E	SLX	Collar Cut	JVT	AL	2	0.75	HB	1	**1**
E	SLX	Collar Cut	JVT	AL	2	0.75	HB	2	**1**
E	SLX	Collar Cut	JVT	AL	2	0.75	HS	1	**1**

E	SLX	Collar Cut	JVT	AL	2	0.75	HS	2	**1**
E	SLX	Collar Cut	JVT	AL	2	0.75	VM	1	**1**
E	SLX	Collar Cut	JVT	AL	2	0.75	VM	2	**1**
E	SLX	Collar Cut	SYV	AL	1	0.75	HB	1	**1**
E	SLX	Collar Cut	SYV	AL	1	0.75	HB	2	**1**
E	SLX	Collar Cut	SYV	AL	1	0.75	HS	1	**1**
E	SLX	Collar Cut	SYV	AL	1	0.75	HS	2	**1**
E	SLX	Collar Cut	SYV	AL	1	0.75	VM	1	**1**
E	SLX	Collar Cut	SYV	AL	1	0.75	VM	2	**1**
E	SLX	Collar Cut	SYV	AL	2	0.75	HB	1	**1**
E	SLX	Collar Cut	SYV	AL	2	0.75	HB	2	**1**
E	SLX	Collar Cut	SYV	AL	2	0.75	HS	1	**1**
E	SLX	Collar Cut	SYV	AL	2	0.75	HS	2	**1**
E	SLX	Collar Cut	SYV	AL	2	0.75	VM	1	**1**
E	SLX	Collar Cut	SYV	AL	2	0.75	VM	2	**1**
E	SLX	Collar Cut	IDL	AL	1	0.75	HB	1	**1**
E	SLX	Collar Cut	IDL	AL	1	0.75	HB	2	**1**
E	SLX	Collar Cut	IDL	AL	1	0.75	HS	1	**1**
E	SLX	Collar Cut	IDL	AL	1	0.75	HS	2	**1**
E	SLX	Collar Cut	IDL	AL	1	0.75	VM	1	**1**
E	SLX	Collar Cut	IDL	AL	1	0.75	VM	2	**1**
E	SLX	Collar Cut	IDL	AL	2	0.75	HB	1	**1**
E	SLX	Collar Cut	IDL	AL	2	0.75	HB	2	**1**
E	SLX	Collar Cut	IDL	AL	2	0.75	HS	1	**1**
E	SLX	Collar Cut	IDL	AL	2	0.75	HS	2	**1**
E	SLX	Collar Cut	IDL	AL	2	0.75	VM	1	**1**
E	SLX	Collar Cut	IDL	AL	2	0.75	VM	2	**1**
E	SLX	Collar Cut	ID3	UNA	1	0.75	HB	1	**1**
E	SLX	Collar Cut	ID3	UNA	1	0.75	HB	2	**1**
E	SLX	Collar Cut	ID3	UNA	1	0.75	HS	1	**1**
E	SLX	Collar Cut	ID3	UNA	1	0.75	HS	2	**1**
E	SLX	Collar Cut	ID3	UNA	1	0.75	VM	1	**1**
E	SLX	Collar Cut	ID3	UNA	1	0.75	VM	2	**1**
E	SLX	Collar Cut	ID3	UNA	2	0.75	HB	1	**1**
E	SLX	Collar Cut	ID3	UNA	2	0.75	HB	2	**1**
E	SLX	Collar Cut	ID3	UNA	2	0.75	HS	1	**1**
E	SLX	Collar Cut	ID3	UNA	2	0.75	HS	2	**1**
E	SLX	Collar Cut	ID3	UNA	2	0.75	VM	1	**1**
E	SLX	Collar Cut	ID3	UNA	2	0.75	VM	2	**1**
E	SLX	Collar Cut	JAP	PL	1	0.75	HB	1	**1**
E	SLX	Collar Cut	JAP	PL	1	0.75	HB	2	**1**
E	SLX	Collar Cut	JAP	PL	1	0.75	HS	1	**1**
E	SLX	Collar Cut	JAP	PL	1	0.75	HS	2	**1**
E	SLX	Collar Cut	JAP	PL	1	0.75	VM	1	**1**
E	SLX	Collar Cut	JAP	PL	1	0.75	VM	2	**1**
E	SLX	Collar Cut	JAP	PL	2	0.75	HB	1	**1**
E	SLX	Collar Cut	JAP	PL	2	0.75	HB	2	**1**
E	SLX	Collar Cut	JAP	PL	2	0.75	HS	1	**1**
E	SLX	Collar Cut	JAP	PL	2	0.75	HS	2	**1**
E	SLX	Collar Cut	JAP	PL	2	0.75	VM	1	**1**

E	SLX	Collar Cut	JAP	PL	2	0.75	VM	2	**1**