

Shooting Tests on Backstop Netting (4 Base Types)

Location: BEARPAW HQ

Tests conducted: from 14:30 PM to 21:30 PM

Weather: Sunny around 25 °C

Wind at shooting range: Zero to 1;

Bow 1: Field Star Recurve Take Down: 30 lbs at 29.5 inch draw length

Bow 2: Quick Stick Langbogen: 50 lbs at 29.5 inch draw length

Arrows for Bow 1: **) Carbon Impact | Traditional Hunter Extra Light | 3 Plastic Fletches 3 " | Shaft/Tip Dia.: 5,66 mm | Tip Bullet Form

Arrow#	Weight in grain	in gramm	Speed*) in ft/sec.	in m/sec.
1	232	15,0	173,8	53,0
2	231	15,4	171,8	52,4
3	232	15,5	177,0	53,9
4	230	15,3	170,3	51,9
5	231	15,4	175,5	53,5
Av. Value	231,2	<u>15,3</u>	173,7	<u>52,9</u>

Average Kinetic Energy: = $1/2 m \cdot v^2$

21,5 Joule (Ws)

Arrows for Bow 2: Gold Tip, Expedition Hunter | Hardwood Green 500 28" | 4"5 Saubuckel | BEARPAW Natural Feathers | Shaft / Tip Dia.: 7,92/4,38 mm | Tip 3D - Combo/Step Tip

Arrow#	Weight in grain	in gramm	Speed*) in ft/sec.	in m/sec.
1	350	22,7	190,6	58,1
2	347	23,1	186,4	56,8
3	353	23,5	194,6	59,3
4	353	23,5	194,0	59,1
5	358	23,9	188,2	57,4

Average Kinetic Energy: = $1/2 m \cdot v^2$

39,5 Joule (Ws)

*) Arrow Speed measured with Easton Easton Bow Force Mapper - Speed measurement device; Measurements conducted before shooting on test objects!

**) Some arrows were replaced during the shooting event because of destroyed fletches

- Shooting distances: 10, 15, 18, 30 & 50 meter
- Shooting frequency: Each bow: 15 shoots on net at each distance; making total 30 shots per distance; total each net has seen at least 120 hits
- Target area: eye hight (1.7 m from ground) middle of the net from both sides apart
- Shooting:
 - Shooters always pulled the full draw length acc. speed measurement base settings
 - Shooting breaks were built in to maintain these critical base parameters
 - Always shooting run of 5 shoots (3 times totally) were done and the results were documented each time; totally 15 shoots on each net at each distance with each bow were done
- Test Evaluation: 3 categories were determined:
 - Pass 1: (P1) Arrow was stopped by the net, did not penetrate it and dropped before the net to the ground
 - Pass 2: (P2) Arrow did penetrate the net; but still stucked into it
 - Failure: (F) Arrow was shot through net

Parameter Tests of Backstop Nets

Item#	Backstop Net Type	Color	High in m	Width in m	Distance bottom edge from ground in m	Sewing structure holes	Hole diameter in mm
1	BEARPAW PRODUCTS Net	Green	3,00	3,00	0,30	slightly oval	2.0/2.5
1a	BEARPAW PRODUCTS Net (treated)	White	3,35	4,00	0 *)	slightly oval	2.0/2.5
2	German Supplier	Light Green	2,80	3,15	0,50	tight net	na
3	American Supplier	White	3,20	3,00	0,10	oval	1.9/2.9
4	European Supplier	Green	3,15	5,00	0,15	oval	2.2/2.5

Mounting of nets:

- Nets were hocked up with standard plastic hocks; on coated steel wire; standard item in industry
- Nets were generally not stretched in length, hanging with natural folds

*)touching ground

Test results

	Net 1			Net 1a			Net 2			Net 3			Net 4		
10 m	P1	P2	F	P1	P2	F	P1	P2	F	P1	P2	F	P1	P2	F
Bow 30 lbs	2	1	2	na	na	na	4	0	1	0	2	3	3	2	0
	2	1	2	na	na	na	5	0	0	0	0	5	1	2	2
	1	2	2	na	na	na	2	1	2	1	3	1	1	3	1
Bow 50 lbs	4	0	1	na	na	na	1	2	2	2	0	3	3	0	2
	4	0	1	na	na	na	0	0	5	2	0	3	4	0	1
	4	0	1	na	na	na	2	1	2	1	0	4	3	0	2
Summery	17	4	9	0	0	0	14	4	12	6	5	19	15	7	8

	Net 1			Net 1a			Net 2			Net 3			Net 4		
15 m	P1	P2	F	P1	P2	F	P1	P2	F	P1	P2	F	P1	P2	F
Bow 30 lbs	2	3	0	2	1	2	2	0	3	1	4	0	2	2	1
	3	2	0	0	5	0	2	2	1	0	3	2	1	3	1
	2	3	0	3	2	0	3	0	2	0	4	1	2	3	0
Bow 50 lbs	1	0	4	3	0	2	0	1	4	1	0	4	3	0	2
	3	0	2	3	0	2	0	1	4	1	0	4	3	0	2
	4	1	0	3	0	2	0	0	5	4	0	1	2	0	3
Summery	15	9	6	14	8	8	7	4	19	7	11	12	13	8	9

	Net 1			Net 1a			Net 2			Net 3			Net 4		
18 m	P1	P2	F	P1	P2	F	P1	P2	F	P1	P2	F	P1	P2	F
Bow 30 lbs	3	1	1	2	2	1	4	0	1	2	3	0	0	3	2
	4	0	1	1	4	0	4	1	0	1	3	1	0	2	3
	2	3	0	3	2	0	5	0	0	1	3	1	3	0	2
Bow 50 lbs	5	0	0	3	1	1	1	0	4	4	0	1	2	0	3
	5	0	0	4	0	1	1	0	4	3	0	2	2	0	3
	4	1	0	4	0	1	1	2	2	2	0	3	5	0	0
Summery	23	5	2	17	9	4	16	3	11	13	9	8	12	5	13

	Net 1			Net 1a			Net 2			Net 3			Net 4		
30 m	P1	P2	F	P1	P2	F	P1	P2	F	P1	P2	F	P1	P2	F
Bow 30 lbs	2	3	0	na	na	na	4	0	1	1	4	0	2	3	0
	1	4	0	na	na	na	2	0	3	1	4	0	1	3	1
	3	2	0	na	na	na	4	0	1	2	3	0	2	1	2
Bow 50 lbs	5	0	0	4	0	1	2	0	3	2	1	2	1	0	4
	4	0	1	4	0	1	1	2	2	3	2	0	4	0	1
	5	0	0	4	0	1	0	1	4	1	0	4	4	0	1
Summery	20	9	1	12	0	3	13	3	14	10	14	6	14	7	9

	Net 1			Net 1a			Net 2			Net 3			Net 4		
50 m	P1	P2	F	P1	P2	F	P1	P2	F	P1	P2	F	P1	P2	F
Bow 30 lbs	3	2	0	na	na	na	3	0	2	2	3	0	1	3	1
	2	3	0	na	na	na	5	0	0	0	5	0	1	4	0
	2	3	0	na	na	na	4	0	1	0	5	0	3	2	0
Bow 50 lbs	5	0	0	na	na	na	1	0	4	4	0	1	4	0	1
	5	0	0	na	na	na	2	0	3	3	0	2	4	0	1
	3	1	1	na	na	na	2	0	3	4	0	1	4	0	1
Summery	20	9	1	0	0	0	17	0	13	13	13	4	17	9	4

TOTAL: **80 27 13 29 9 7 60 10 50 42 41 37 58 28 34**

total failure rate: **11% NA 42% 31% 28%**