

Table #1

**NJAES – SNYDER RESEARCH FARM – BACKPACK SPRAYER
EVALUATION AT 30 P.S.I. WITH “06” NOZZLE (0.52 GPM)**

SPRAYER MODEL	OPERATION POWER SOURCE	STROKES/ GAL.	RESIDUAL	TIME: REQUIRED
SOLO #475 DIAPHRAM PUMP	HAND	123	1 oz.	2 min., 3 sec.
SOLO #425 PISTON PUMP	HAND	88	4 oz.	1 min., 48 sec.
SHINDAIWA SP #415 PISTON PUMP	HAND	57	2.5 oz.	1 min., 57 sec.
MARUYAMA #409 PISTON PUMP	HAND	95	1 oz.	1 min., 52 sec.
HARDI BP #15 PISTON PUMP	HAND	108	1 oz.	2 min., 5 sec.
ECHO MS #100 DIAPHRAM PUMP	HAND	120	5 oz.	2 min. 9 sec.
STIHL SG #20 PISTON PUMP	HAND	96	4.5 oz.	1 min., 48 sec.
BIRCHMEIER IRIS 15K PISTON PUMP	HAND	120	2 oz.	1 min., 52 sec.
**SHURFLO SRS #600 (HIGH PSI SETTING)	ELECTRIC MOTOR	NA	NA	5 min., 38 sec.
**SHURFLO (03 NOZZLE) (HIGH PSI SETTING)	ELECTRIC MOTOR	NA	NA	3 min., 58 sec.
ECHO SHR #210	Gasoline	NA	NA	2 min.

OPERATION PARAMETERS: All sprayers were operated with a CF 30 psi pressure regulator valve (except Echo SHR 210)

** Shurflo Electric Pump Pulses Conflicted With CF Pressure Regulator

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Table #2

**NJAES – SNYDER RESEARCH FARM – BACKPACK SPRAYER
EVALUATION AT 15 P.S.I. WITH “06” NOZZLE (0.37 GPM)**

SPRAYER MODEL	OPERATION POWER SOURCE	STROKES/ GAL.	RESIDUAL	TIME: REQUIRED
SOLO #475 DIAPHRAM PUMP	HAND	136	1.5 oz.	2 min., 28 sec.
SOLO #425 PISTON PUMP	HAND	124	10 oz.	2 min., 32 sec.
SHINDAIWA SP #415 PISTON PUMP	HAND	72	9 oz.	2 min., 16 sec.
MARUYAMA #409 PISTON PUMP	HAND	124	8 oz.	2 min., 32 sec.
HARDI BP #15 PISTON PUMP	HAND	99	4 oz.	2 min., 0 sec.
ECHO MS #100 DIAPHRAM PUMP	HAND	124	9 oz.	2 min. 36 sec.
STIHL SG #20 PISTON PUMP	HAND	128	11 oz.	2 min., 32 sec.
BIRCHMEIER IRIS 15K PISTON PUMP	HAND	148	6 oz.	2 min., 40 sec.

OPERATION PARAMETERS: All sprayers were operated with a CF 15 psi pressure regulator valve (except Echo SHR 210)

** Shurflo Electric Pump Pulses Conflicted With CF Pressure Regulator

Table #3

SPRAYER PERFORMANCE EVALUATION

* 1 = WORST 10 = BEST

SPRAYER MODEL	#1 OPERATOR	#2 OPERATOR	#3 OPERATOR	#4 OPERATOR	AVERAGE RATING
SHINDAIWA SP #415 HAND PISTON PUMP	8	9	7	7	7.75
MARUYAMA #409 HAND PISTON PUMP	2	2	2	5	2.75
ECHO MS #100 HAND DIAPHRAM PUMP	3	3	4	8	4.5
SOLO #475 HAND DIAPHRAM PUMP	4	6	4	7	5.25
SOLO #425 HAND PISTON PUMP	6	7	5	7	6.25
HARDI BP #15 HAND PISTON PUMP	3	3	2	6	3.5
STIHL SG #20 HAND PISTON PUMP	4	6	3	6	4.75
BIRCHMEIER IRIS 15K HAND PISTON PUMP	3	5	2	5	3.75
ECHO GAS MOTORIZED SHR #210	6	8	5	8	6.75
STIHL GAS MISTBLOWER SR #420	7	9	7	8	7.75
**SHURFLO SRS #600 (HIGH PSI SETTING)	5	5	7	5	5.5

* 4 Experienced individuals with backpack sprayers utilized sprayers in a field of several vegetable crops; peppers, eggplant, tomatoes and squash for comfort, performance and fatigue

CHART 1

BACKPACK SPRAYER EVALUATION SUMMARY (215 Respondents)

Question#1: Rate you knowledge of backpack sprayers BEFORE presentation

Question#2: Rate your knowledge of backpack sprayers AFTER presentation

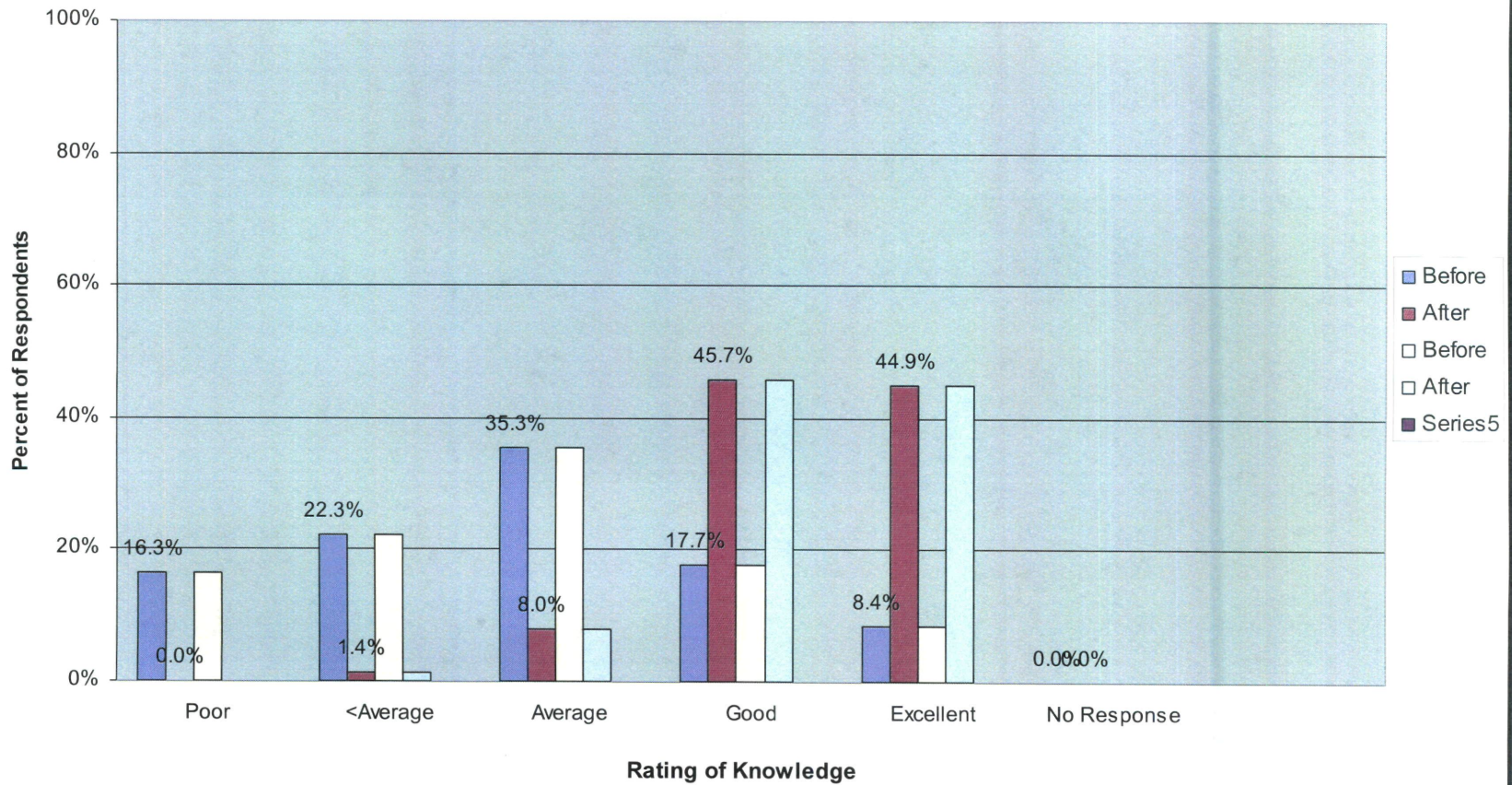


CHART 2

BACKPACK SPRAYER EVALUATION SUMMARY
(215 Respondents)

Question#3: Did the presentation meet your expectations?

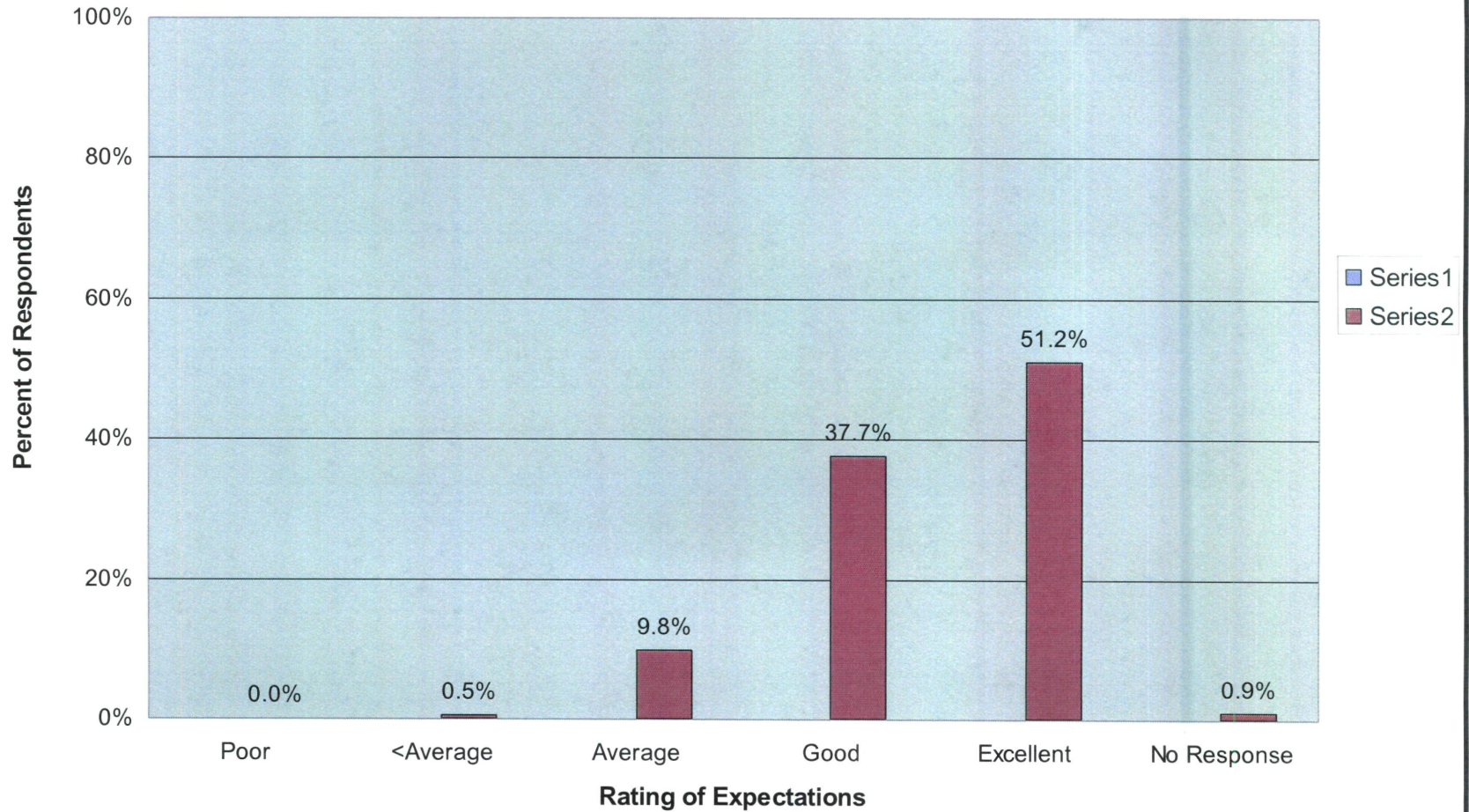


CHART 3

BACKPACK SPRAYER EVALUATION SUMMARY (215 Respondents)

Question#4: Rate the following individual components of the program:
a. Sprayer design, b. Sprayer modifications, c. Spray nozzels, d. Spray accessories

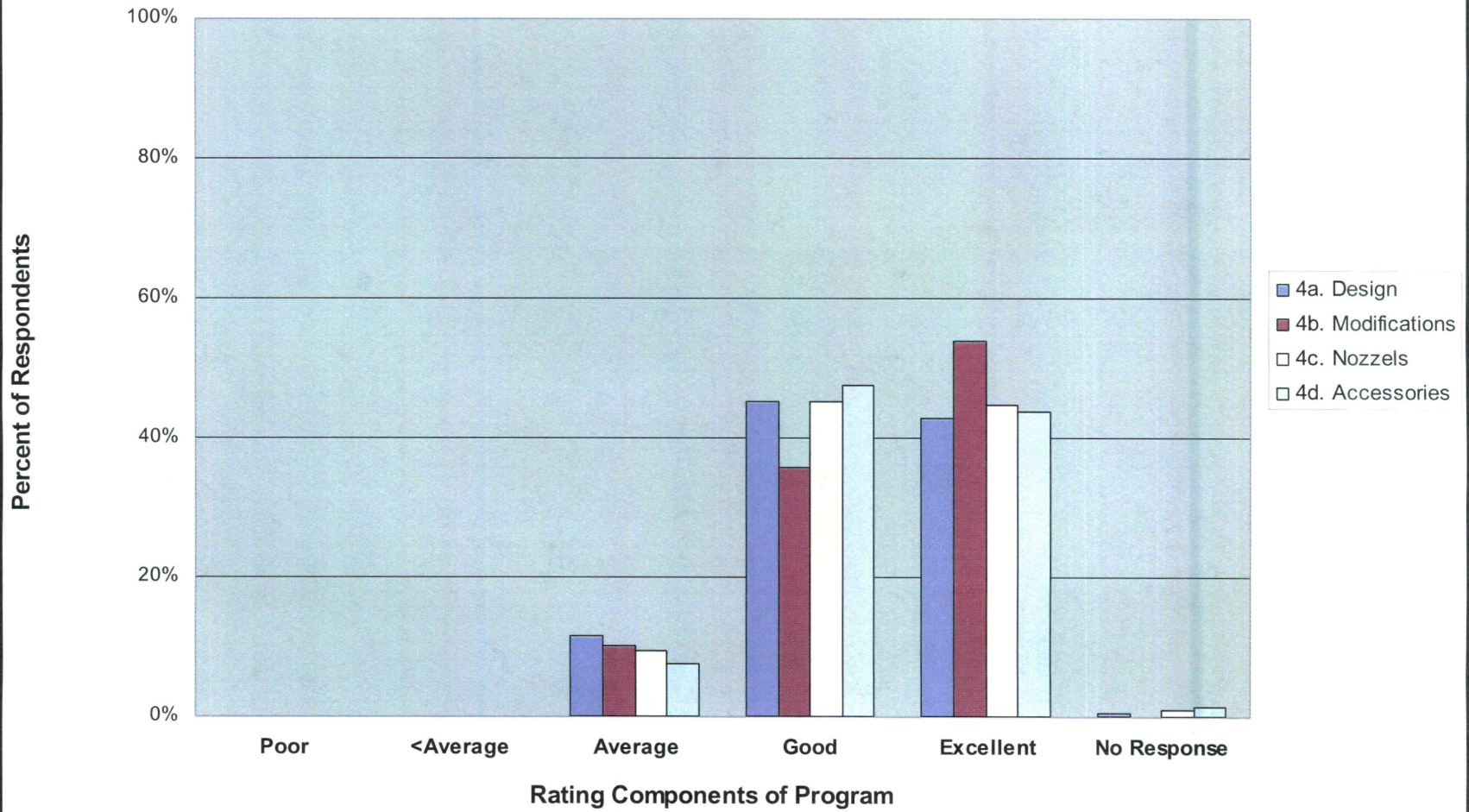


CHART 4

BACKPACK SPRAYER EVALUATIONS SUMMARY (215 Respondents)

Question#5: Rate your knowledge of backpack sprayer calibration BEFORE presentation

Question#6: Rate you knowledge of backpack sprayer calibration AFTER presentation

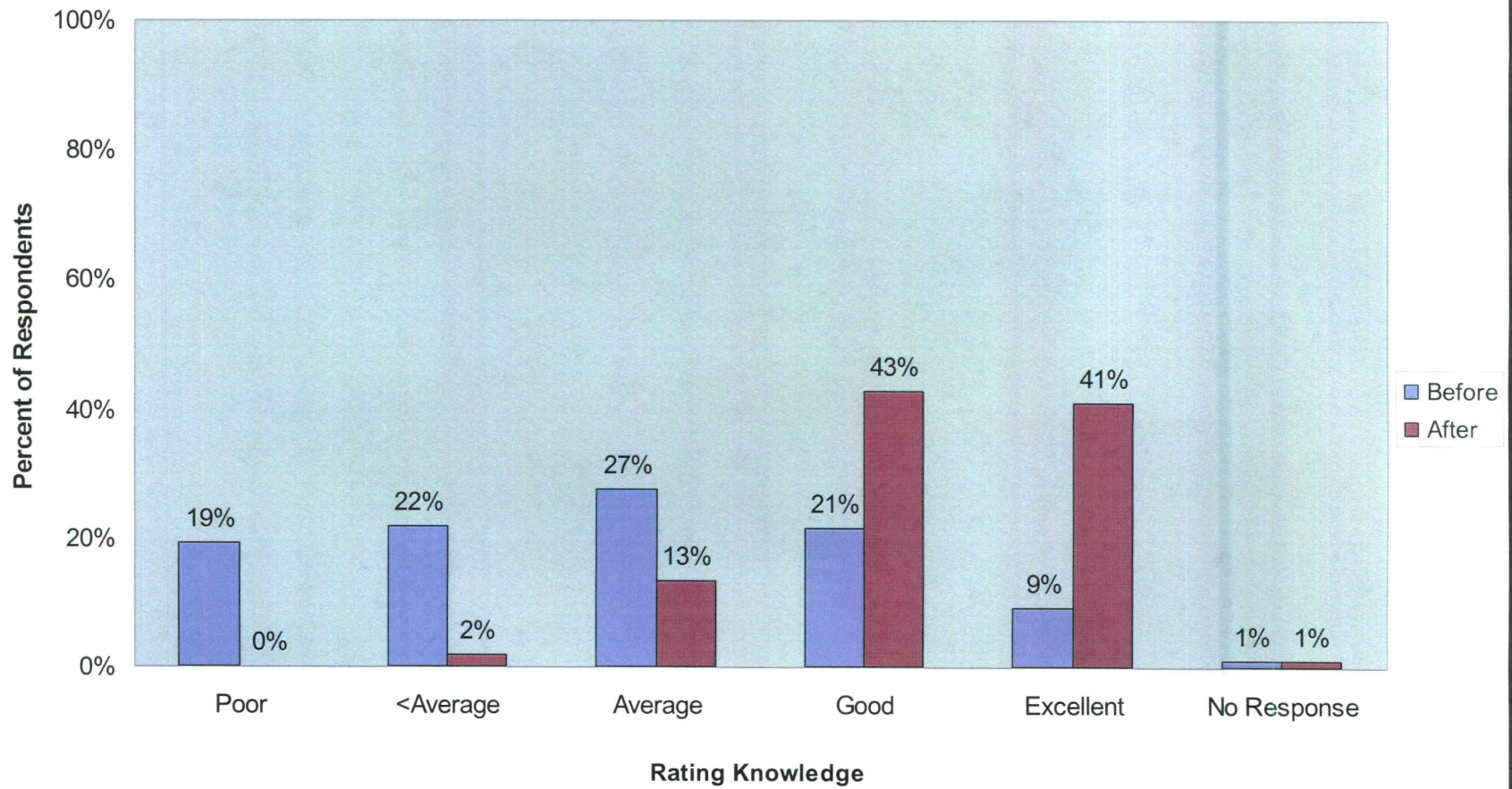


CHART 5

BACKPACK SPRAYER EVALUATION SUMMARY
(215 Respondents)

Question#7: Rate the program for improving your ability to effectively utilize backpack sprayers

