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Attn: [Redacted]

Test Requested by: [Redacted]

Test Objective: Determine Screening Performance of Texas Shaker for scalping and cleaning corn.

Equipment: Tyler Rotap Sieve Analysis
2' x 12' Texas Shaker Scalping
2' x 12' Texas Shaker Cleaning
Jones Splitter Splitting Samples for F.M. Sieves
Hand Sieve F.M. testing

Procedure: The following procedure was followed for the common and waxy corn.

1. Sieve analyses were performed.
2. Samples were scalped for oversize.
3. Samples were cleaned and F.M. test was performed.

Results:

Sieve Analysis: Dirty Common Corn Bulk Density = 44#/ft³
Screen Time = 3 min

<u>Sieve No.</u>	<u>Weight(gr)</u>	<u>%</u>	<u>Accum. %</u>
+3/8	0	0	0
+3m	260	49.9	49.9
+4m	242	46.4	96.3
+5m	8	1.5	97.8
+6m	4	.8	98.6
+8m	3	.6	99.2
-8m	4	.8	100.0
	<hr/> 521 grams		

Dirty Waxy Corn

Bulk Density = 43.5#/ft³
Screen Time = 3 min

<u>Sieve No.</u>	<u>Weight(gr)</u>	<u>%</u>	<u>Accum. %</u>
+3/8	0	0	0
+3m	358	47.9	47.9
+4m	380	50.8	98.7
+5m	5	.6	99.3
+6m	2	.3	99.7
+8m	1.5	.2	99.9
-8m	.75	.1	100.0
	<hr/> 747.3 grams		

Screen Performance:

Projected Feed Rates based on 350#/ft width for 10 Deck Rate 525 lb/min
438#/ft width for 8 Deck Rate 657 lb/min

Scalping Runs: 1/2" woven wire, .080" wire

Dirty Common

Run #1 650 #/min

	<u>Weight</u>	<u>%</u>	<u>Accum %</u>
Overs	2.5 oz	.05	.05
Throughs #1	166.5#	63.8	63.8
#2	81#	31	94.8
#3	11#	4.2	99.0
#4	1.5#	.6	99.6
#5	1 oz	.3	99.9
	<hr/> 260.7 #		

Run #2 669 #/min

	<u>Weight</u>	<u>%</u>	<u>Accum %</u>
Overs	2.7	.06	.06
Throughs #1	172.5#	64.4	64.4
#2	81.5#	30.4	94.8
#3	11.5#	4.2	99.0
#4	1.5#	.6	99.6
#5	11.7oz	.3	99.9
	<hr/> 268#		

Dirty Waxy

Run #3 688 #/min

	<u>Weight</u>	<u>%</u>	<u>Accum %</u>
Overs	1.1oz	.02	.02
Throughs #1	181.5#	60.9	60.9
#2	98#	33.0	93.9
#3	16#	5.4	99.3
#4	1.5#	.5	93.8
#5	11oz	.2	100.0
	<hr/> 297.7#		

Run #4 712 #/min

	<u>Weight</u>	<u>%</u>	<u>Accum %</u>
Overs	1oz	.06	
Throughs #1	176#	59.3	59.3
#2	100#	33.7	93.0
#3	18.5#	6.2	99.2
#4	1.5#	.5	99.7
#5	11oz	.2	99.9
	<hr/> 296.7#		

Oversize in each case was much less than 1%.

Cleaning Runs:

Procedure for cleaning runs:

1. Choose screen cloth.
2. Clean corn.
3. Perform Foreign Material Test (F.M.) using split sample of overs on 12/64" round hole using hand sieve.

Dirty Common 3/16" Clear Opening .047" wire

Run # 5 592 #/min

	<u>Weight</u>	<u>%</u>	<u>Accum %</u>
Overs	255.6#	95.9	95.9
Throughs #1	4#	1.5	97.4
#2	2.5#	.9	98.3
#3	2#	.7	99.0
#4	1.5#	.6	99.6
#5	14.3oz	.3	99.3
	<hr/> 266.5 #		

F.M. Run #5
Check

<u>Overs</u>	<u>Weight</u>	<u>%</u>	<u>Throughs</u>	<u>Weight</u>	<u>%</u>
+12/64	734 gr	98.78	+12/64	-	
-12/64"	9 gr	1.22	-12/64"	-	

Dirty Common 4 mesh Clear Opening .047" wire

Run # 6 573 #/min

	<u>Weight</u>	<u>%</u>	<u>Accum %</u>
Overs	248.5#	96.3	96.3
Throughs #1	4#	1.5	97.8
#2	2#	.8	98.6
#3	1.5#	.6	99.2
#4	1#	.4	99.6
#5	1#1oz	.4	100.0
	<hr/> 258 #		

F.M. Run #6
Check

<u>Overs</u>	<u>Weight</u>	<u>%</u>	<u>Throughs</u>	<u>Weight</u>	<u>%</u>
+12/64	390 gr	98.9	+12/64	-	
-12/64"	4 gr	1.1	-12/64"	-	

Dirty Waxy 4 mesh Clear Opening .047" wire

Run # 7 528 #/min

	<u>Weight</u>	<u>%</u>	<u>Accum %</u>
Overs	233.5#	98.1	98.1
Throughs #1	1.5#	.6	98.7
#2	1#	.4	99.1
#3	1#	.4	99.5
#4	.5#	.2	99.7
#5	.5#	.2	99.9
	<hr/> 238#		

F.M. Run #7
Check

<u>Overs</u>	<u>Weight</u>	<u>%</u>	<u>Throughs</u>	<u>Weight</u>	<u>%</u>
+12/64	307 gr	99	+12/64	36 gr	26.9
-12/64"	3 gr	.97	-12/64"	98 gr	73.1



Dirty Waxy 4 mesh Clear Opening .047" wire

Run # 8 520 #/min

	<u>Weight</u>	<u>%</u>	<u>Accum %</u>
Overs	225#	97.8	97.8
Throughs #1	25#	1.1	98.9
#2	1#	.4	99.3
#3	.72#	.3	99.6
#4	.53#	.2	99.8
#5	.46#	.2	100.0
	<hr/> 252.7#		

F.M. Run #8
Check

<u>Overs</u>	<u>Weight</u>	<u>%</u>	<u>Throughs</u>	<u>Weight</u>	<u>%</u>
+12/64	745 gr	99.46	+12/64	5.2 oz	59.1
-12/64"	4 gr	.53	-12/64"	3.6 oz	40.9

Dirty Common 4 mesh Clear Opening .035" Wire

Run # 9 525.5 #/min

	<u>Weight</u>	<u>%</u>	<u>Accum %</u>
Overs	226 #	95.5	95.5
Throughs #1	6.5#	2.7	98.2
#2	1.5#	.6	98.8
#3	1.5#	.6	99.4
#4	.5#	.2	99.6
#5	.5#	.2	99.8
	<hr/> 236.5		

F.M. Run #9
Check

<u>Overs</u>	<u>Weight</u>	<u>%</u>	<u>Throughs</u>	<u>Weight</u>	<u>%</u>
+12/64	872 gr	99.0	+12/64	3 oz	26.8
-12/64"	9 gr	1.0	-12/64"	8.2 oz	73.2

Dirty Waxy 4 mesh Clear Opening .035" Wire
 Run # 10 647 #/min

	<u>Weight</u>	<u>%</u>	<u>Accum %</u>
Overs	254#	97.5	97.5
Throughs #1	3.23#	1.1	98.6
#2	1.23#	.4	99.0
#3	1.14#	.4	99.4
#4	.91#	.3	99.7
#5	.76#	.2	99.9
	<hr/> 261.3 #		

F.M. Run #10
 Check

<u>Overs</u>	<u>Weight</u>	<u>%</u>	<u>Throughs</u>	<u>Weight</u>	<u>%</u>
+12/64	578.3 gr	99.31	+12/64	118 gr	51
-12/64"	4 gr	.69	-12/64"	10 gr	49

Dirty Waxy 4 mesh Clear Opening .035" Wire
 Run # 11 510 #/min

	<u>Weight</u>	<u>%</u>	<u>Accum %</u>
Overs	237#	96.9	96.9
Throughs #1	3.19#	1.3	98.2
#2	1.38#	.6	98.8
#3	1.25#	.5	99.3
#4	.81#	.3	99.6
#5	1#	.4	100.0
	<hr/> 244.6 #		

F.M. Run #11
 Check

<u>Overs</u>	<u>Weight</u>	<u>%</u>	<u>Throughs</u>	<u>Weight</u>	<u>%</u>
+12/64	702 gr	99.36	+12/64	118 gr	51
-12/64"	4.5 gr	.64	-12/64"	109 gr	49





