

TRIPLE/S DYNAMICS
LAB REPORT

DATE: [REDACTED]

FROM: [REDACTED]

COMPANY: [REDACTED]

CONTACT: [REDACTED]

SAMPLE: Cortillia Corn and white cracked corn

OBJECT OF TEST: For cortillia corn to remove cob and crack so as to make a food grade (for use in corn chips, et.). Specifically to check for the possibility of removing feed pellets from the corn.

For the white cracked corn to remove the wheat berries, weed seeds, and other foreign material from the white cracked corn.

PROCEDURE: Cortillia Corn

This corn had not been scalped and seemingly not cleaned so the first step was to scalp and clean the corn over 1/2" C.O. x 3/16" C.O. using the 1' x 3' "TEXAS SHAKER". The next step was to run the corn over the V-135B equipped with a #81 deck and recycling the middlings. This separation is ideally suited to the R-28, but since there is not one in our laboratory the V-135B was used.

The scalplings and screenings were combined resulting in a distribution of:

+1/2" -3/16"	24 lbs. 8 oz.
-1/2" +3/16"	229 lbs. 4 oz.

The V-135B distributions were:

Heavies (clean corn)	214 lbs.
Milds (Recycle left in system at shutdown)	47 lbs. 2 oz.
Lights (cob and crack)	13 lbs. 13 oz.

White Cracked Corn:

A quick sieve analysis was run to see what the extremes were on the size distribution of this material. The range was 1/4" to 32 mesh or a little over an order of magnitude in particle size. Even though range was to the limits of possible separation due to the size, the material was run over the V-135B to check for possible separation. There was (as was expected) a size separation; however, the wheat berries and weed seed did not concentrate at any point along the discharge. The material's size distribution (continued.....)

[REDACTED]

was concentrated in the -4 +10 mesh range, so, the material was screened on 4 and again on 10 mesh. The -4 +10 mesh was then run over the V-135B but again no separation was possible. The only hope of separation would have been on the shape characteristic because wheat and corn have roughly the same density, but this did not occur. This though would have been a good application for a color sorter. Samples were returned to customer.

+4 mesh	1 lb. 10.5 oz.
-4 mesh +10 mesh	236 lbs.
-10 mesh	34 lbs.

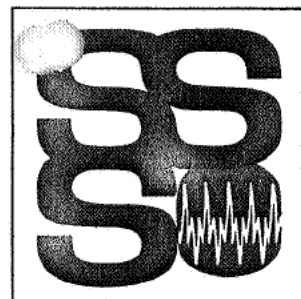
[REDACTED]

[REDACTED]

F.u

[REDACTED]

[REDACTED]



**TRIPLE / S
DYNAMICS
SYSTEMS, INC.**

Dear [REDACTED]:

Enclosed is a copy of our "Operating Instructions" for Overstrom Inclined Vibrating Screens like yours.

My calculations indicate that it would be possible to put 5,000 BPH of wheat through this screen; however, from a practical standpoint I do not feel that the unit could ever handle this much grain without carry over. If the installation of this unit is not too expensive you might try it, but again I don't feel it will render the results you want.

Sincerely,

TRIPLE/S DYNAMICS SYSTEMS, INC.

[REDACTED]

Enclosures: Operating Instructions
Drawing #D5410-180

lab file
File



TRIPLE/S
DYNAMICS
SYSTEMS, INC.

Dear [REDACTED]:

Enclosed is a copy of my lab test report covering the separation tests made on the Cortillia yellow corn and the white cracked corn. Since we have already discussed the separation on the phone, I will just comment that the separations obtainable on an R-28 Gravity Table would be several times better and at several times the rate obtained on the V-135B.

Again, if you would like to go up and see the cleaning operation at Plains Corn, do let me know so that I can make the arrangements with Plains Corn. I will be out of the office from the 7th of May to the 19th of May, but if you would like to get in contact with me, please just call my secretary and leave her a message. I check in daily and I can get back with you at the latest the following day.

Sincerely,

TRIPLE/S DYNAMICS SYSTEMS, INC.

[REDACTED]

Enclosure: copy of lab test

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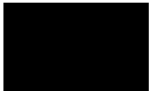
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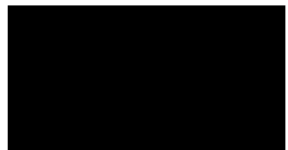
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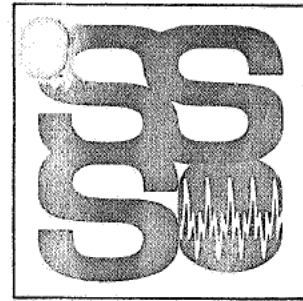
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-10 mesh	34 lbs.



File

[REDACTED]

[REDACTED]



**TRIPLE / S
DYNAMICS
SYSTEMS, INC.**

Dear [REDACTED]:

Enclosed is the literature [REDACTED] requested that I send to you.

[REDACTED] will be looking forward to receiving a call from you concerning a planned visit to observe a corn cleaning plant operation next week.

If you should like further descriptive literature, please contact either [REDACTED] or me.

Sincerely yours,

TRIPLE/S DYNAMICS SYSTEMS, INC.

[REDACTED]

Enclosures: "Dry Separation by Fluidization"
R-28 Rectangular Fluidized-Bed Separator

File

[Redacted]

[Redacted]



**TRIPLE / S
DYNAMICS
SYSTEMS, INC.**

Dear [Redacted]:

Enclosed are the pieces of literature covering the units we would recommend for removing the foreign material from the yellow corn and the removal of the large crack from the white corn screenings. In our recent telephone conversation, you stated that a capacity of about 50 bushels per hour would be your desired processing rate. The unit that would handle the separation you wish to obtain would be the Sutton-Steele R-28 Separator, even though it will handle about four times the capacity which you mentioned.

On the piece of literature entitled Sutton-Steele R-28 Rectangular Fluidized-Bed Separator, drawn in are arrows showing where the heavy concentrate and the light trash material and a middling product to recycle would discharge. The heavy concentrate would then be spouted to a Sutton-Steele S-22F Stoner whose purpose would be to remove the feed pellets, stones, and other heavy tramp material from the corn. Both of these units can be equipped with dust hoods and other air handling equipment can be supplied if the installation requirements necessitate dust control.

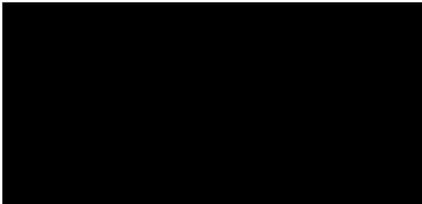
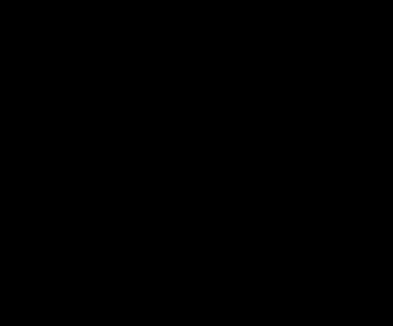
As soon as I can schedule some lab time, your test will be run (certainly by Friday of this week), and I will forward the results to you at the earliest possible date. Should you need any further information please let me know.

Sincerely,

TRIPLE/S DYNAMICS SYSTEMS, INC.

[Redacted]

Enclosures: "Dry Separation by Fluidization"
Marked-up R-28 Separator bulletin
S-22F Stoner Bulletin



Dear [Redacted]:

Confirming the telephone conversation we had. We will deliver to your plant 300# yellow corn and 300# white corn screenings, also a small sample of pellets etc., we have not been able to remove from yellow corn.

1. Can you remove foreign material such as the pellets in the small sack?
2. Can you remove the large cracked corn rejecting the wheat and smaller foreign material?



cc./Uli

questions!

Capacity? 50 BPH

What is concentration of pellets in whole corn

What do you want removed from white corn screenings