AP-42 Section Number: 9.10.2.1

Reference Number: 6

Title: Written communication from Jim Ryals, Almond Hullers and Processors Association, to Dallas Safriet, US EPA

Ryals, Jim

Almond Hullers and Processors Association

July 1993

ALMOND HULLERS and PROCESSORS ASSOCIATION

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Report Sect. ____
Reference ____

July 7, 1993

Mr. Dallas W. Safriet
Emission Inventory Branch
Office of Air Quality Planning and Standards
Research Triangle Park, NC 27711

Dear Mr. Safriet,

Thank you for allowing the Almond Hullers and Processors Association the opportunity to comment on the draft of the almond section of AP-42, section 6.10.2.

I will key my comments to specific page # and paragraphs when possible. I have also included a marked up flow diagram and some other diagrams that may be useful in describing our business.

Page 1-1 and following - the question was repeatedly asked among our members, "Why in the world are they talking about peanuts in the almond section?"

Delete form section 2 all references to peanuts. It detracts from the purpose of the section.

Page 2-3 - Paragraph 2.1.2. The last line of first paragraph. All almonds of any commercial significance are grown in California. There is a federal marketing order that covers almonds.

Page 2-8 - Paragraph 2.2.2. The first sentence should read, "Almond processing facilities consist of four basic operations: harvesting, hulling, shelling and processing. Roasting is an important, but relatively minor part of the processing of almonds.

Page 2-8 Paragraph 2.2.2.1 It states that 25% of the material in the rows may be..... Our long term averages indicate that this is 12 - 14%, not 25 % as stated.

Page 2-8 Paragraph 2.2.2.2 Suggested last sentences follow. After the almonds are hulled and shelled, they are ready for further processing (grading, roasting, blanching, dicing, slicing; etc).... Almond hulls are marketed as a dairy feed and the shell of the almond is a primary fuel for bio-mass fired co-generation plants.

Suggested changes to page 2-9 are included as an enclosure.

Page 2-10 - paragraph titled Separating and Shelling. Cracked almonds..... which separate hulls from the almond meats. 4th sentence - The screen separates the unshelled.....

Page 2-10, paragraph titled Final Processing. The first sentence needs to include blanching and dicing to be complete. Roasting and salting are fairly minor in comparison to the raw product sales.

Page 2-11, paragraph beginning "Metals on the Clean Air Act....." The California Air Resources Board has a mountain of true data on what is and is not in the hulling process. You should be able to obtain this by referring to the AB 2588 test for toxic hot spots. This would eliminate guess work and the use of words like may and is believed.

The statements in the next paragraph are also of concern. We are trying to deal with PM 10 not " all fugitive emissions". The use of words like "roughly estimated" at the 10% level make us nervous. The next time we see rules being written, they will reference AP-42 and use the 10% figure as gospel.

Page 2-11, Paragraph 2.4 - The last sentence of this paragraph is unsubstantiated and should be omitted until scientific data is available. This is not even a SWAG at this time.

Page 4-1,Paragraph 4.1 - The descriptions in the second paragraph are interesting, but the only true statement that can be made is that we have approximately 350 hullers or huller/shellers and no two are alike. The statement about the two large bag houses would be a rarity according to the committee that reviewed this document.

Page 4-2, top of page. Field weights typically yield 13% debris, 50% hulls, 23% meat and 14% shells would be a more accurate statement.

Section 6.10. 2.

General - Please see previous comments. The process is four basic operations; harvesting, hulling, shelling, and processing. Don't get hung up on roasting. A relatively minor percentage of the crop goes through the roasting process.

Again, our members report that over many years the field debris is between 12- 14%, not the 25 % used in this and previous sections.

The use of the word loosen when discussing the screens is misleading. The screens serve to separate different sizes and direct the flow to hull, shell and meat destinations. Please see the flow diagrams provided as enclosure 2.

In the paragraph on metals, please refer back to my comments on the availability of information from California Air Resources Board on AB 2588 (Toxic Hot Spots).

The next to last paragraph on page 6.10.2-2 is risky. You talk about 0.1 grains and 0.001 grains which is fairly precise number. In the next sentence you talk about expectations which we do not have data to substantiate. It has been our experience that local regulators jump on these numbers as truths and things rapidly get out of hand. Please leave conjecture out of a formal document and we will work with you to get you as much factual, supportable data as we collect.

Pages 6.10.2-4 and 5. This page completely omits information on shelling. Shelling is as important as hulling.

The following comments were provided by an air engineer that we requested to review the document.

1. Remove the fourth paragraph on page 6.10.2-3. This paragraph suggests the possibility of metals and silica being emitted from the process. (Please see my previous comments on AB2588 data that should be available from CARB.)

2. Remove the fifth paragraph on page 6.10.2-2. This paragraph "roughly estimates" fugitive emissions from cyclones as 10% of the measured particulate. This is entirely speculation, without scientific data to back it up. Given a lack of other information, a permitting official could pick up on this as a fact.

3.Either remove or modify the tables 6.10.2-1 and 6.10.2-2 CANDIDATE TOTAL PARTICULATE EMISSION FACTORS FOR ALMOND HULLING.

This comment will be broken into two sections: emission points with cyclones and emission points with bag houses.

CYCLONES - These factors were developed using the 1974 test report performed and compiled by the California Air Resources Board (CARB). The factors were derived by determining the average of the source tests. This could be a big problem, because the first thing that would happen is that these factors would be used to specify an emission limit on a new or modified huller. If that in deed does happen, by definition 50% of the hullers would be in violation; since the data was based on average of source tests. However, a portion of the data used to determine the emission factors were from source test data that exceeded the particulate matter concentration limit of 0.1 g/dscf.

BAG HOUSES - This data was based on one source test. Again, one of the first things that could happen with this emission factor is that it will be used to set a standard for which all hullers with bag houses would have to meet. This is a very low emission factor. While bag houses may be extremely efficient for almond hullers, the error in source testing could be a problem. Especially since all of the source test mentioned in the MRI report (those test without bag tears) and others (Superior Farms, Central California Almond Hullers, Harris-Woolf) demonstrate an emission factor higher than specified. The concern with source testing is the error that is

present in the source test method. The error could play an important part in demonstrating compliance with this low of an emission factor with only one test being used. There is a question on its accuracy and its possible uses.

4. <u>OVERALL</u> - There is a definite need for emission factors. Recognized emission factors are invaluable. Recognized emission factors are the only avenue for reducing the amount of source testing that must be performed. Also, they play a major role in speeding up the permitting process at the local districts. I would suggest consulting bag house manufactures as to what they can guarantee as emission factors, within reasonable economic guidelines.

As a conclusion, I would request that serious consideration be given to delaying this section until a thorough search is made for source test data. The information at hand may lead to erroneous conclusions.

Unfortunately, farming requires dirt and dirt produces dust. Our job is to work together to set reasonable standards that will allow us to continue to feed people at a cost they can afford.

Please call if I may be of any assistance. I will work for cooperation to find the resources to obtain any data you may wish to gather.

Sincerely,

Jim Ryals

Jim Ryals
Manager

encl: 1. Suggested Page 2-9 and 6.10.2-3
2. Almond Product Plant Flow

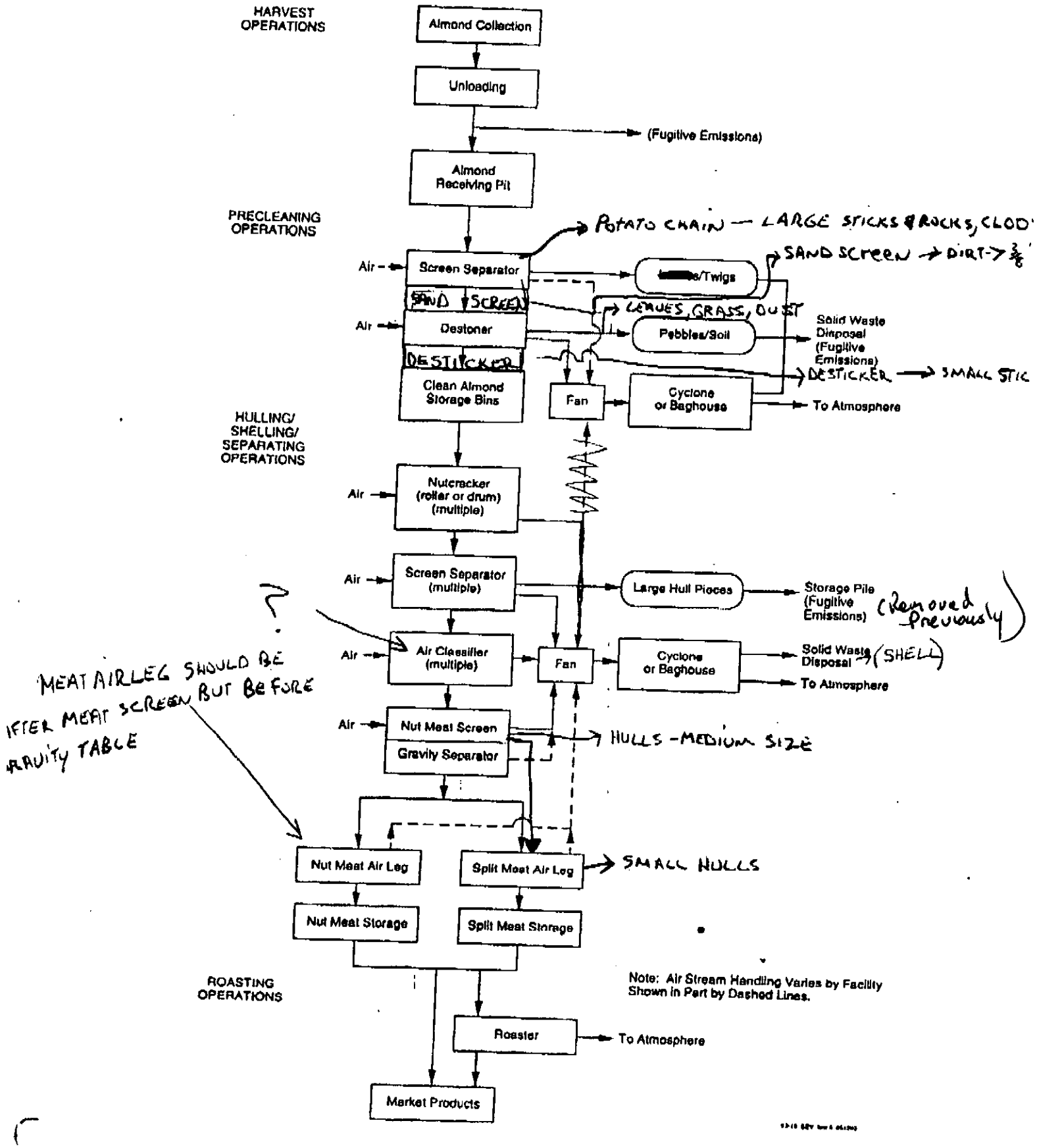

Figure 2-1. Representative almond processing flow diagram.

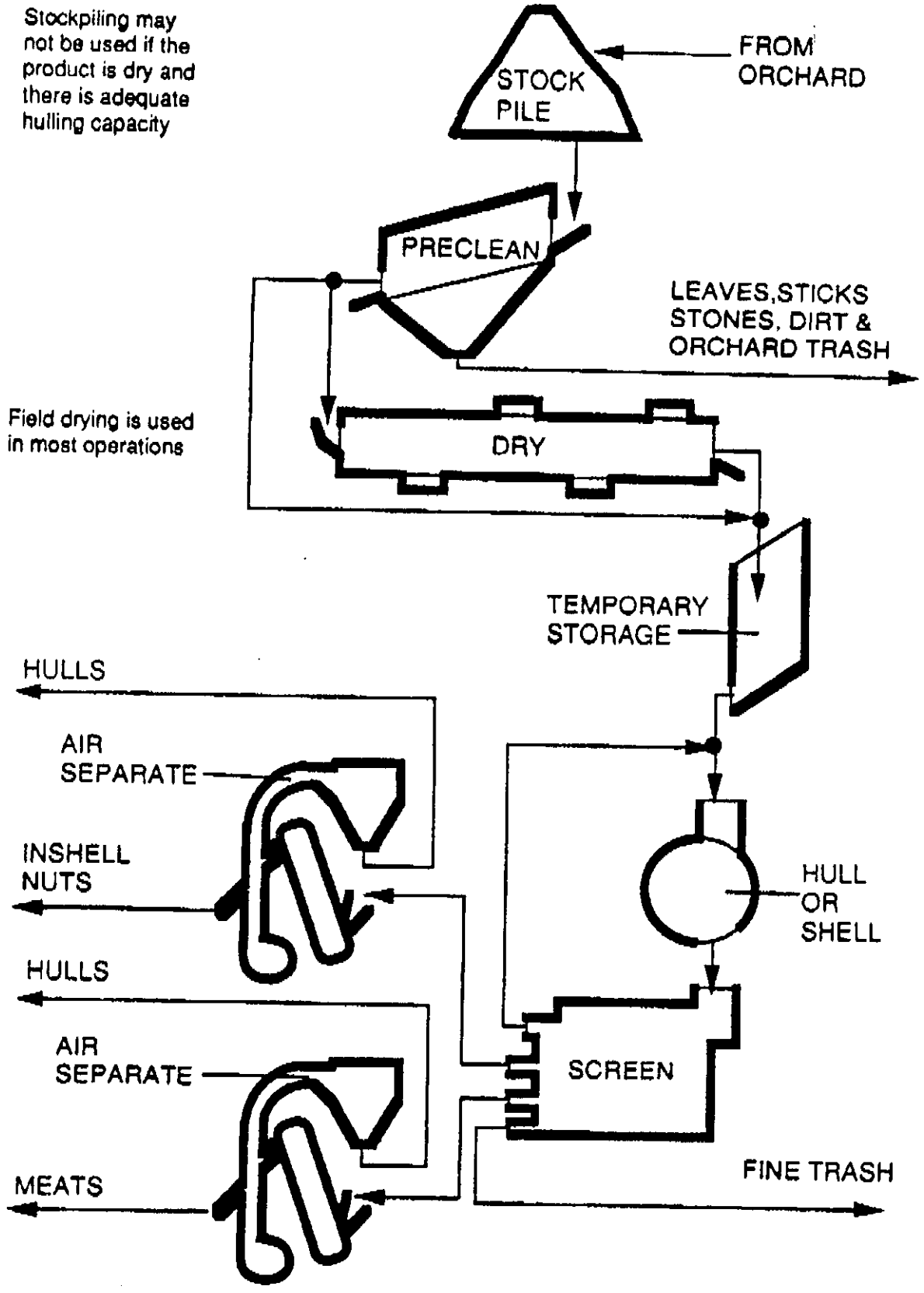

Figure 1. Flow diagram of a typical almond hulling operation.

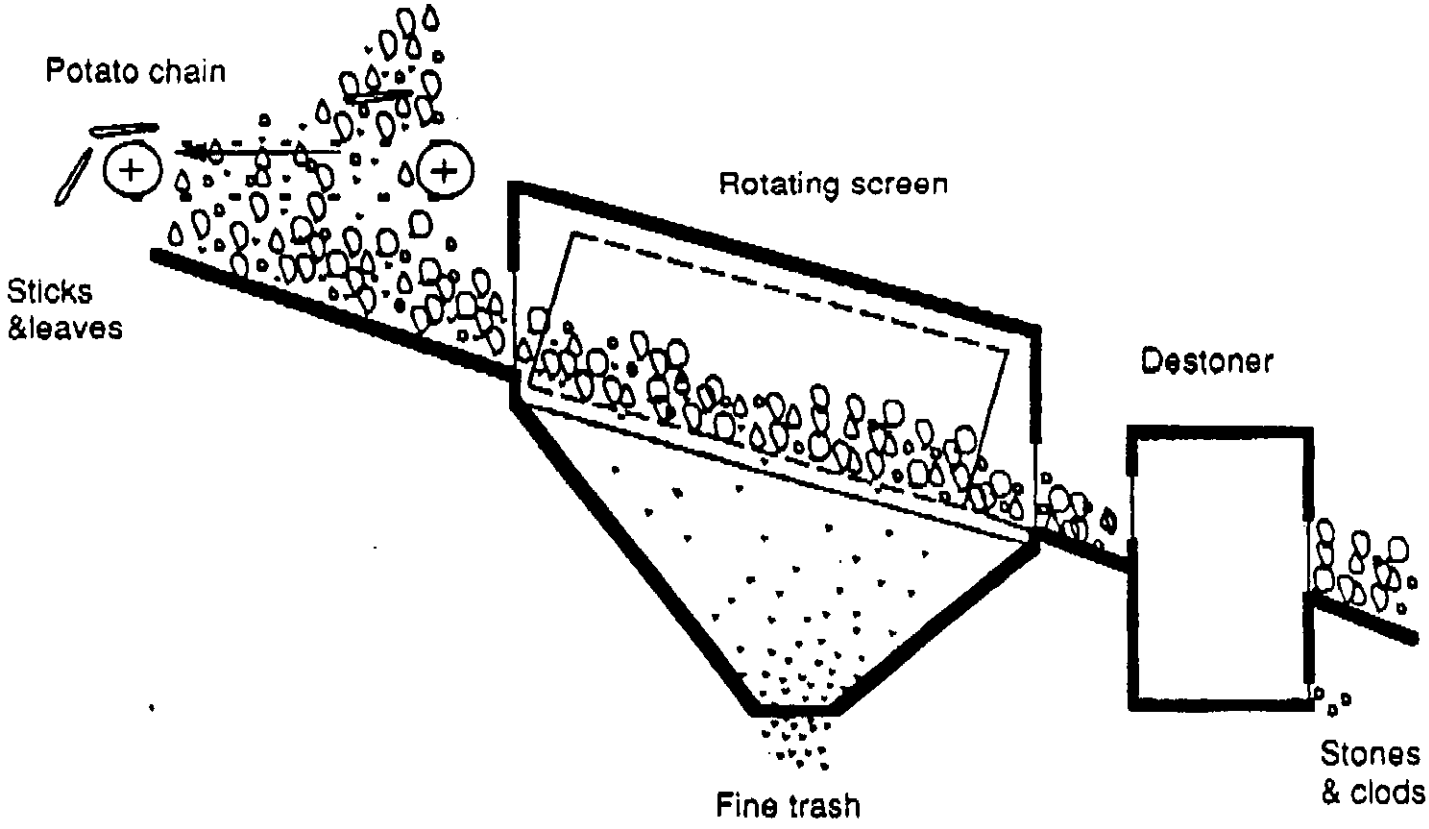

Figure 2. Precleaning system used to remove trash before hulling or drying.

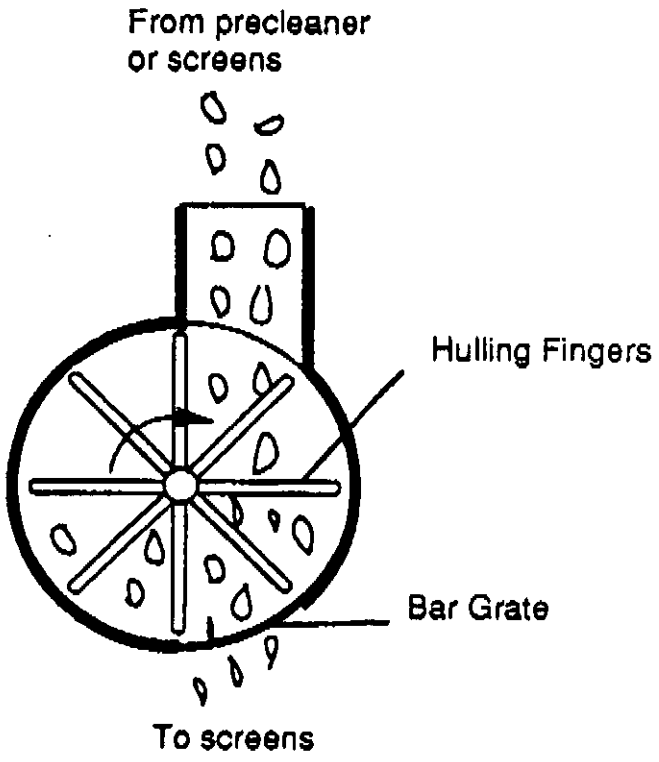

Figure 5. Hulling cylinder used to separate hulls from inshell almonds

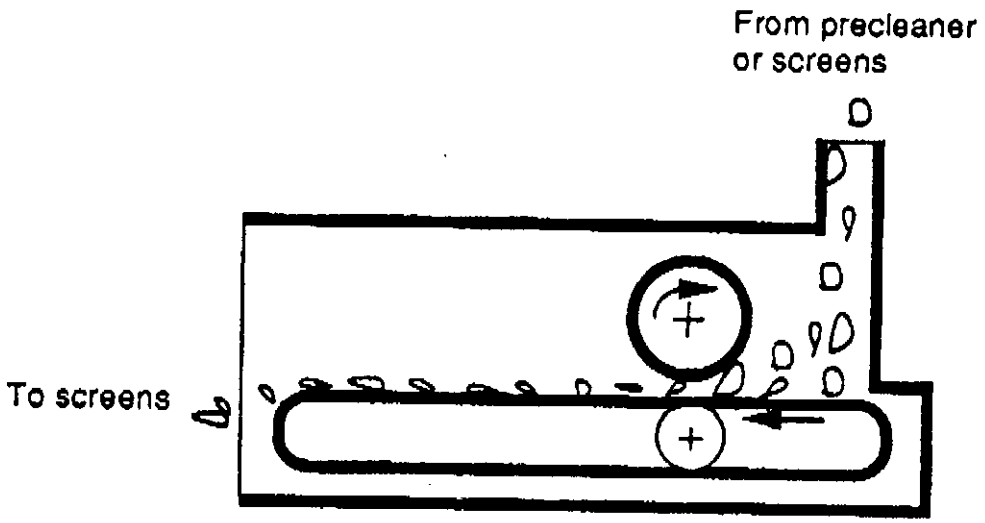

Figure 6. Shear roll used to hull almonds.

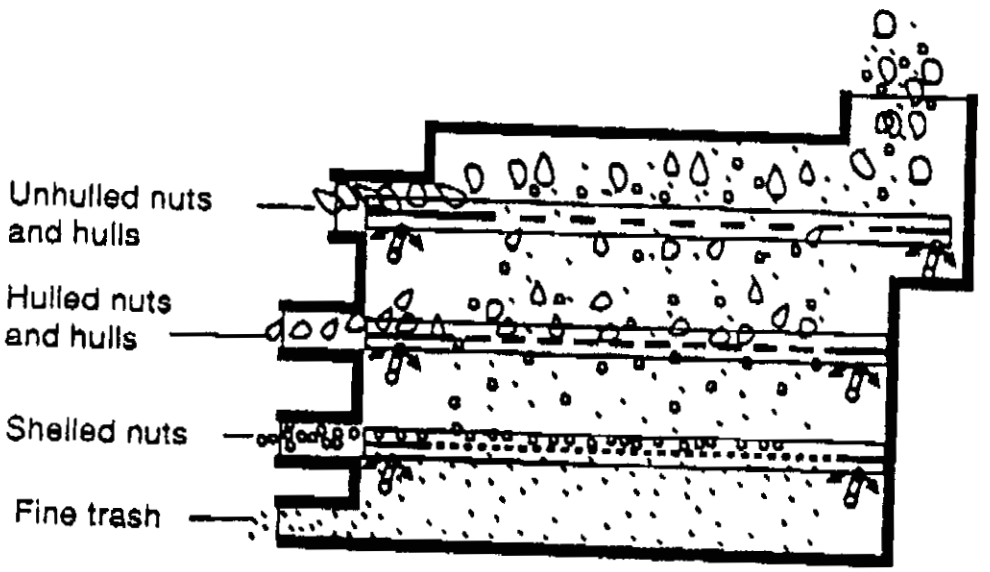

Figure 7. Classifying screen for separating products produced by hulling or shelling operations.

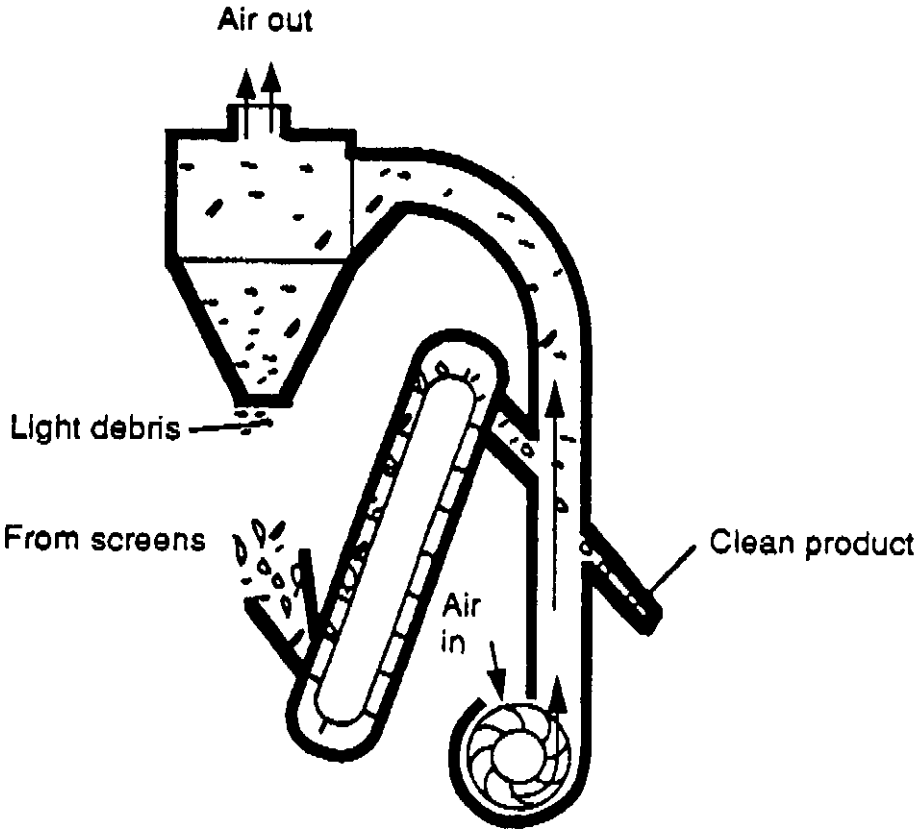

Figure 8. Air separator removes hulls or trash from inshell almonds or meats.

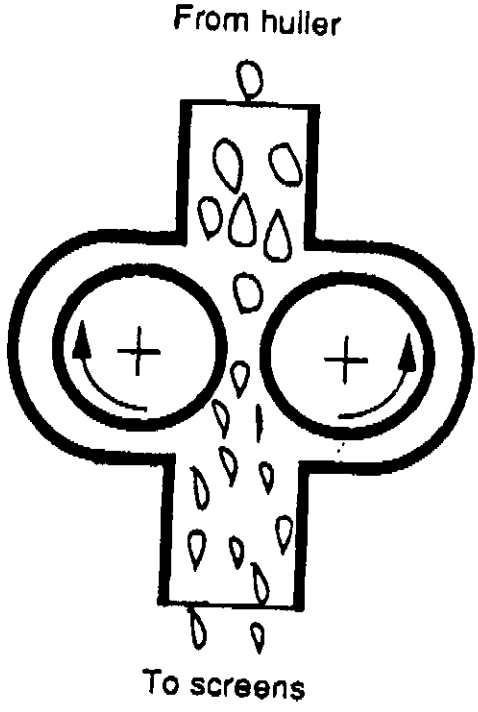

Figure 9. Cracking roll used to shell almonds.