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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Memorandum:

SUBJECT: PP#6F3392. Clofentezine in/on apples. Comments on Dried Apple Pomace and Residue Data Needs. (MRID#429507-01, No CBTS#, DP Barcode D202491).

FROM: Jerry B. Stokes, Chemist
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THRU: Debra Edwards, Ph.D., Chief
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Jerry B Stokes
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4/26/94

TO: Dennis Edwards, PM-19
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NOR-AM Chemical Company has submitted a report titled "Survey of the Moisture Content and Utilization of Apple Pomace" (MRID#429507-01) in support of their petition PP#6F3392 for the use of clofentezine in/on apples. The company has proposed that dried apple pomace should no longer be considered a livestock feed, and thus neither residue data would be needed, nor establishment of a feed additive tolerance for dried apple pomace.

Detailed Considerations:

Apple pomace is the byproduct of the apple processing industry which remains after cider has been expressed from small whole apples, and the stems, cores, and peelings remaining after preparation of apple juice and sauce for human consumption. Normally apple pomace is available in most apple growing areas, and especially at larger processing plants. It is often available from fall until the mid-spring. There are two types produced: 1) 100% pomace with no added pressing agents, and 2) apple pomace with

pressing agents (usually added at less than 15%) such as wood shavings, oat hulls, and rice hulls, etc. The pomace without pressing agent is thought of as "wet" concentrate, while the pomace with a pressing agent is considered a low energy roughage. Because of the high water content, it is normally hauled a limited distance, i.e., 50-60 miles maximum, unless it is a drought year when feed is scarce. The typical water content for "wet" apple pomace is at least 60%. However, some presses, i.e., a centrifuge press, produce apple pomace with moisture contents in the 20-29% range. Other processors have reported apple pomace moisture contents in a 38-50% range. Potentially, approximately 400,000 tons of apple pomace can be produced from 2,000,000 tons of apples which are processed in the US per year. According to this estimate of pomace, the 20-29% moisture pomace could comprise 7.5% of the pomace produced annually. Pomace in the 38-50% range could comprise 1% of the annual production.

To produce "dried" apple pomace, in all areas except some in California, requires mechanical drying using an external heat source. Because of the high energy cost vs. the potential value of the dried pomace, it appears that "dried" apple pomace is probably not produced in the US using man-induced external heat sources. In California, however, there is a company that has large asphalt lots which are specifically used for sun-drying of pomace. The company sun-dries a mixture of 75% apple and pear pomace and 25% grape pomace to less than 10% moisture. This mixture is produced specifically for livestock feeding. The company stated that during peak production periods, or if weather conditions prohibit sun-drying, the pomace is sold wet (60-70% moisture). According to the company, the pomace mixture is popular with dairy farmers.

In addition, apple pomace is dried and milled for incorporation into human foods, e.g., breads, cakes, cookies, and fruit leather, as an apple fiber product. The moisture content is reported as low as 2%. None of this material is reported to be fed to livestock.

Conclusions and Comments:

Apparently, "dried" apple pomace is not presently produced in the US by mechanical drying for livestock feeding because of the high energy cost vs. feedstuff market price. The only apple pomaces of moisture contents less than the normal 60% average for "wet" apple pomace produced are 1) a small amount (ca. <32,000 tons/year) of "wet" pomace (moisture content of 20-29%), 2) an even smaller amount (<4,000 tons) in the 38-50% moisture, and 3) a apple-pear-grape mixture of a sun-dried pomace (moisture content 10%, available in CA only).

Together, these products only make up approximately <10% of the estimated US annual apple pomace production. The remaining 90% have moisture ranges from 60 to 85% with an average of 60% moisture.

Recommendations:

Based on the above comments/facts CBTS recommends that data for "dried" apple pomace not be required at this time. If technological advances allow significantly more of this 20-29% moisture product to be produced, and available for livestock feeding in the future, residue data may be required for this type of lower moisture pomace. The moisture content for "wet" apple pomace should be defined as approximately 60%.

Thus, CBTS had commented previously that a food additive tolerance for "dried" apple pomace was needed for the proposed use on apples. However, based on the above recommendation, this is no longer necessary.

cc: PP#6F3392; J. Stokes (CBTS); R.F.; Circu.
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