NOSB Crop Committee Report
Eric Sideman - Chairman

Material Recommendation
Ethylene Use To Regulate Flowering In Pineapple Production

Background Information

In 1998 a group of pineapple growers petitioned the National Organic Standards Board to consider ethylene for inclusion on the National List of Allowed and Prohibited Materials. The petition requested the material for use as an allowed synthetic to regulate flowering in pineapple production.

The grower group advocated that use of a flower induction agent is imperative to achieve uniform fruit set and to ensure year round production. The group further argued that while spontaneous fruit initiation does occur in pineapple, it is very irregular and spread over a very long time. Irregular flowering exacerbates the great difficulties in pest and disease control and makes commercial production challenging.

Presently, flowering of pineapple is initiated in one of three ways; the application of calcium carbide, ethephon, or ethylene saturated water. At the last NOSB meeting (October 25-27, 1999) the Board rejected the petition to included calcium carbide on the National List. Additionally the Board tabled discussion of other methods of flowering regulation because of a lack of information about the methods, materials and practices used.

Since the October 1999 meeting the Board has received information from the petitioner clarifying the material and processes. The original petition submitted to the National Organic Program requested ethylene gas to be considered. However, this information was lost and was not in the information package reviewed by NOSB at its October 1999 meeting.

It is the understanding of the Crops Committee that, at this time, a petition for the use of the material ethephon has not been filed. Since at the last NOSB meeting the Board rejected the request to list calcium carbide, the only task in front of the NOSB is to consider ethylene gas applied as described below.

Material and Process

Ethylene gas, which comes in steel cylinders, is injected into the boom of a sprayer through which abundant water flows with charcoal and is sprayed on the pineapple plants. Details on the application method and material are provided in the Supplemental Information sheet provided by OMRI that is posted on the Organic Materials Review Institute web site (http://www.omri.org).

Crop Committee Recommendations

1) The first question considered by the Committee: Is this material synthetic?

Committee Response: In the original TAP review there was consensus among reviewers that ethylene from petroleum sources, which this is, is synthetic.

The Crop Committee concurs with this determination.

2) The second question considered by the Committee: Should there be any restriction placed on the use of the material?

Committee Response: Ethylene for ripening fruit was discussed at the October 1999 meeting. Presently, the case is restricted to the request for ethylene as a flower induction agent for pineapples. The Crop Committee unanimously recommends that any listing of ethylene should carry specific restrictions, e.g., "for flower induction in pineapple" or "for ripening fruit".

3) The third question considered by the Committee: Should the material be placed on the National List?

Committee Response: There are 7 criteria listed in OFPA to consider when making the decision to list a synthetic material (see Section 6518 m in OFPA). At least one member of the Crop Committee felt that when using the information provided by OMRI in the original TAP review and the Supplemental Information Report that ethylene fares quite well against these criteria and should be listed as a permitted synthetic.

However, other considerations were raised during the discussion presenting the Committee with a difficult decision overall. One Committee inquired whether there is sufficient need demonstrated to go against the basic principles of organic production and to permit a synthetic material. If the ethylene were manufactured from a natural source it would not be a concern.

Another issue raised was whether a plant growth regulator, which is what ethylene is, fits any of the categories noted in Section 6517 (c) (1) (B) (i) of OFPA. It is the Committee's assumption that any listed synthetic must be in one of the noted categories. On the other hand, it was discussed that perhaps the point is moot as NOSB did allow ethylene for ripening fruit in the October 1999 meeting. Further clarification is needed.

Committee Recommendation

A majority of the Crop Committee votes that ethylene should be recommended to the NOSB as an allowed synthetic for flower induction in pineapple with the following restriction: The material should be phased out within two to three years and be removed from the National List of allowed synthetic materials.

The committee believes this stance would encourage the development of either natural sources of ethylene or other more acceptable methods of flower induction in pineapple.