State of California
AIR RESOURCES BOARD

Resolution 83-12
June 29, 1983

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, an unsolicited research Proposal Number 1213-99 entitled "The Effects of Present and Potential Air Pollution on Important San Joaquin Valley Crops" has been submitted by the Regents of the University of California, Riverside to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

> Proposal Number 1213-99 entitled "The Effects of Present and Potential Air Pollution on Important San Joaquin Valley Crops", submitted by the Regents of the University of California, Riverside for a total amount not to exceed $124,894;

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

> Proposal Number 1213-99 entitled "The Effects of Present and Potential Air Pollution on Important San Joaquin Valley Crops", submitted by the Regents of the University of California, Riverside for a total amount not to exceed $124,894; and

BE IT FURTHER RESOLVED, that the Executive Officer is authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed in an amount not to exceed $124,894.

I certify that the above is a true and correct copy of Resolution 83-12 as passed by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 83-8-4b(2)
DATE: June 29, 1983

ITEM: Research Proposal No. 1213-99 entitled "The Effects of Present and Potential Air Pollution on Important San Joaquin Valley Crops".

RECOMMENDATION: Adopt Resolution 83-12 approving Research Proposal No. 1213-99 for funding in an amount not to exceed $124,894.

SUMMARY: Very little is known about the effects of SO_2, alone or in combination with ambient oxidants, on important San Joaquin Valley crops. This type of information is needed for evaluating the effects of current and possible future air quality in the Valley upon vegetation. The proposed study would determine the effects of SO_2 and/or ambient oxidants on cotton and grapes.

The dominant cotton variety in the San Joaquin Valley, SJ-2, is expected to be supplanted by the variety C-1 in the near future. In these experiments, the two varieties will be grown in open-top field fumigation chambers and exposed to the various air pollution treatments. The treatments include: 1) pollution-free air, 2) ambient air, 3) filtered air and .05 ppm SO_2, 4) filtered air and .1 ppm SO_2, 5) ambient air and .05 ppm SO_2, 6) ambient air and .1 ppm SO_2, and 7) ambient air (no chamber). The plants will be observed for visible symptoms, plant growth, flower production, boll set, cotton yield and lint quality.

Approximately 40 percent of the grape acreage in California is devoted to Thompson Seedless grapes. Prior work by the proponent demonstrated that ambient oxidants in the San Joaquin Valley reduced the average yield of Thompson Seedless grapes by 20 percent. This study will expose Thompson Seedless grapes to 1) ambient unfiltered air, 2) carbon-filtered air, 3) ambient air and .1 ppm SO_2, 4) filtered air and .1 ppm SO_2, and 5) ambient air (no chamber). The vines are already established and will be covered with rectangular open-top fumigation chambers. Data will be recorded on vegetative growth, number and weight of bunches and acid and sugar content. This proposal is the first year of an expected three-year study. Previous experience by the proponent showed that grape vines need to be exposed to the air pollution treatments for a minimum of three years before air pollution effects can be detected. Proposals for subsequent years will be submitted when appropriate.