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Session 4

Industrial Needs for Commercialization

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This technical discussion session focused on the obstacles to commercial applications of bioprocesses for production of fuels, chemicals, and materials. Commercial successes in these technology areas have been slow to emerge, not because of a lack of innovative or cogent technology, but for other reasons. The presentations and discussions in this session sought to identify these reasons and to suggest solutions.

The panel of distinguished industrialists that addressed these issues included:

Dr. Charles Abbas, Group Leader, Research Division,
Archer Daniels Midland
Dr. Robert Dorsch, Director Biotechnology Development,
Central R&D, DuPont
Dr. Raphael Katzen, Chairman, Raphael Katzen Associates
Dr. Robert E. Lumpkin, Vice-President Technology, Swan Biomass

The model for industrial development in the commodity biotech industry is ethanol, produced in the United States in quantities of 1.5 billion gal annually. Different perspective in ethanol/biotech commercialization were provided; from the leading ethanol producer from grain; from the emerging cellulose to ethanol industry; from the leading chemical producer in the United States; and from an historical engineering viewpoint.

A summary of potential problems and industrial needs for commercialization that were identified included:

- Nontechnical forces (externalities)
- Lack of business focus (marketing, and so forth)
- Financing for demonstrations
- Reduced risk for investors
- Increased government support (subsidies?)
- Coordination of national strategy
- Environmental issues (all streams considered)
- Developed product markets
- Confirmed economic projections