What approaches are most likely to encourage the adoption of best management practices?

Venture Capital and Innovation Investment in Agriculture

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- Total venture capital financing is down from its peak in 2000 at $99B to approximately $29B and continues to slowly decline. Overall venture returns are poor relative to other asset classes, with the 10 year returns falling below 4%. The result is that institutional capital is seeking other investment opportunities in alternative asset classes (buy-out, hedge funds, etc.). While there is some concern about this, the United States still leads the world in Venture Capital (VC) funding by a significant margin (~$29 billion) compared to other countries (generally < $2B). Other regions of the world (Asia, Eastern Europe, South America) all see biotechnology and VC as a source of innovation for industry diversification.

- Venture capital investment in the US is highly skewed geographically, with more than $11B being spent in the San Francisco Bay Area (Silicon Valley). A vast majority of the life science VC money goes to healthcare/biotechnology ($5 billion), cleantech (~ $5B ) and internet/telecom/computers (~$7B).

- Traditionally, agriculture investing has been a very small portion of the life science VC dollars (<$100M annually). Despite this, small agricultural biotechnology companies have contributed disproportionately to today’s GM technologies (herbicide and insect resistance).

- Recently, the rise of “cleantech” investing has increased the interest in agricultural biotechnology. Cleantech investing includes areas such as sustainability, food security, water, and biofuels/biorefining. All these areas have agriculture as a significant player. The recent IPO by Ceres, several recent acquisitions, and a growing interest in the needs for improved agriculture, have all increased the interest of some VC groups.

- Corporate VC groups have become a much stronger player in funding innovation. Corporate balance sheets are strong and large companies are using VC as part of an innovation strategy. Examples in agriculture include;

  1. Monsanto’s recently announced alignment with Atlas Ventures in Boston, also its investments in Nidas Capital.
2. Syngenta’s new venture fund based in Research Triangle Park, North Carolina, and its previous $100 million commitment to LSP Bioventures in Boston.
3. Dow Agrosciences recently started a New Ventures group and Dow Ventures has a dedicated agriculture resources.
4. BASF ventures has become more active in renewables providing $40 million to Renmatix, a company that converts biomass into sugars.
5. BP Ventures has made investments in ag-biotech companies, Chromatin and Mendel.

- Several factors are contributing to some life science funds looking more closely at agriculture investments. These factors include: the need more food/protein globally and increasing commodity prices and the role of agricultural feedstocks in bioprocessing and biorefinery endeavors. Some new funds include:
  1. First Green Partners-$350 million (Doug Cameron and Warburg Pincus).
  2. Cultivian (Ron Muessen focusing on the Midwest).
  3. Finistere Partners (Jerry Caulder with funding from New Zealand).
  4. Physics Ventures, DBL, Venrock, Mayfield and Polaris continue to be interested in agriculture.
  5. New agriculture investments include; NexSteppe; IPOs by Ceres; acquisitions of Divergence and Pasturia (for new nematicides), as well as last year’s acquisition of Athenix by BayerCropScience, are examples of continued interest in the area.

- Specifically related to pesticide research, the major ag-chem companies are still the drivers of innovation primarily due to their significant in-house expertise, infrastructure for chemical process development, and deep grower relations. New trends include include increased innovation around seed coatings, new herbicide resistance genes forDicamba, 2-4 D, and HPPD inhibitors.

- Several small agbiotech companies are developing “biologics,” which are of increasing interest to the majors. These products are considered “natural” and thus are cheaper and easier to register and can be used in integrated pest management strategies. Several biologics companies have acquired assets in this area and have targeted biologics as an area for growth. One example is Novozymes acquisition of EMD Merck’s Crop Bioscience business for $275 million. More recently Novozyme and Syngenta announced a collaboration to improve fertilizer uptake using biological approaches.