

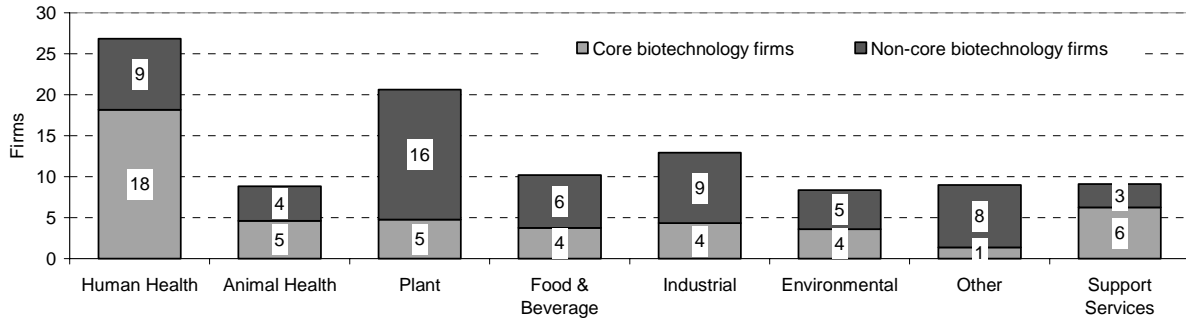
BIOTECHNOLOGY IN SOUTH AFRICA

- In 2003, the South African Department of Science and Technology (DST) and eGoli Bio, a Life Sciences Incubator, commissioned a National Biotechnology Survey.
- This survey, covering reference year 2002-03, was the first of its kind in South Africa.
- The survey was modeled on the recommendations of the OECD *Ad hoc* Biotechnology Statistics group and provided both the OECD list-based definition of biotechnology and a modified single definition.
- The survey scope covered: research groups, firms, research projects, and support service groups. Support service groups included venture capital and private equity firms, government and non-governmental organisations and private organisations.
- The survey focused on 'modern' biotechnology.
- The survey had an overall response rate of approximately 72%; results were not extrapolated to reflect the entire population.
- In 2002-03, 106 firms -- 47 core and 59 non-core -- were involved in biotechnology in South Africa. Traditional biotechnology firms (brewing, food & beverage, wine) were excluded unless they used modern technologies.
- In the company survey, financial data was requested for financial year 2002-03.
- Biotechnology turnover in the business sector was estimated to be at least PPP\$ 123 million in 2002-03.
- Biotechnology R&D was estimated to be PPP\$ 83.6 million for the business sector in 2002-03.
- Only 43% of all core and non-core biotechnology firms responded to the employment question. Combined, these firms reported having 1,020 employees with biotechnology-related duties in 2002-03. This figure constitutes a lower bound estimate of biotechnology employment.
- Most core biotechnology firms were in the human health sector (18 firms), followed by the support services sector (6 firms).
- Eighty-nine percent of biotechnology firms had less than 50 employees in 2002-03.
- The firms were asked to classify the biotechnology used within six categories: 1st Generation, 2nd Generation, 3rd Generation, Natural Products, Technology Platforms and Support Services. For more information on the methodology undertaken by the South African Department of Science and Technology a study was released in 2004 and is available on line, at: <http://www.oecd.org/dataoecd/7/37/36036991.pdf>.
- Over half of the core and non-core biotechnology firms in South Africa were using first generation biotechnology through the application of modern technologies.
- In 2002-3, there were 622 research groups undertaking biotechnology-related activities. These groups were broken down further into 'biotech' (296), 'potential biotech' (205) and 'biotech services' (178).
- In 2002-03, most research groups were in the human health sector followed by the plant sector.
- Combined, biotechnology firms and research groups were responsible for about 154 biotechnology products in 2002-03. The majority of these were human health products (22%) followed by support services products (20%).
- In 2002-03, 911 biotechnology research projects were identified, including projects undertaken by both research groups and firms.
- The dominant sector for research projects was plant biotechnology followed by human health.

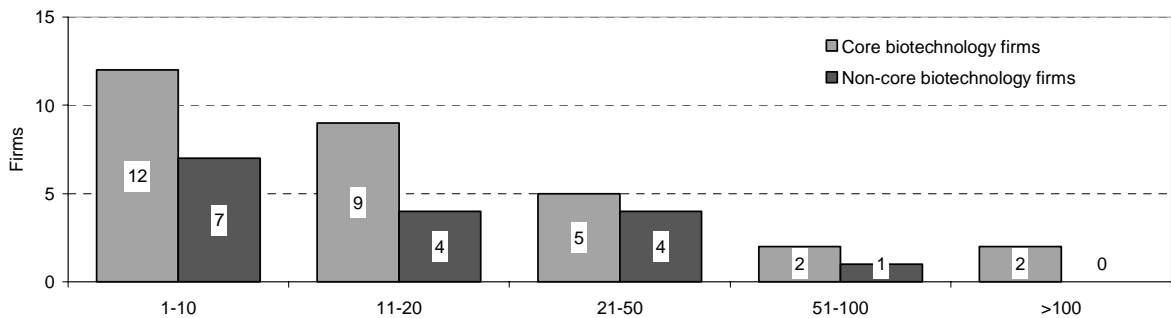
South Africa

Based on National Biotechnology Survey

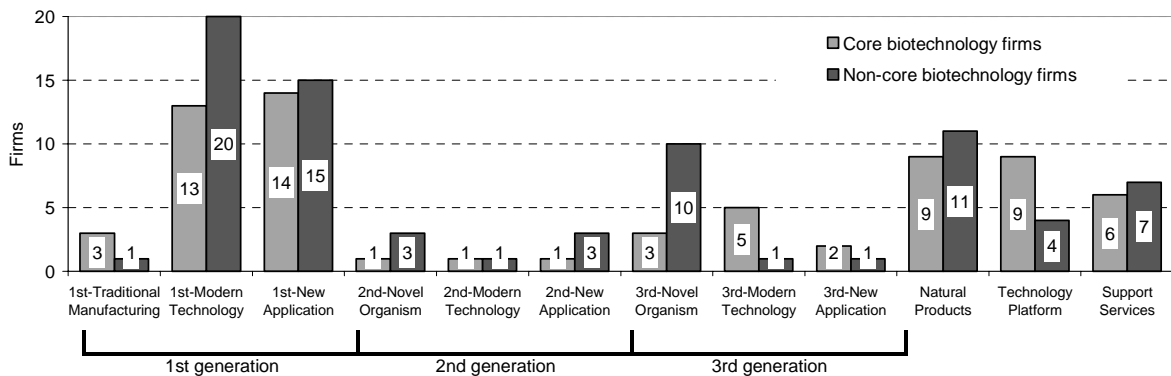
Biotechnology firms by application field, 2002-03
Breakdown of the 106 firms: 47 core and 59 non-core firms



Biotechnology firms by size class of number of employees, 2002-03
Breakdown of 46 firms: 30 core and 16 non-core firms



Biotechnology firms by type of biotechnology,¹ 2002-03
Breakdown of the 106 firms: 47 core and 59 non-core firms



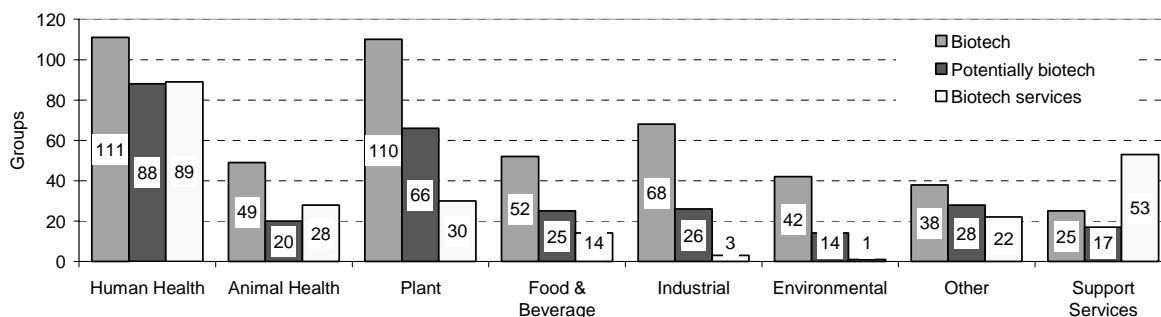
1. Some firms appear in more than one type of biotechnology.

Source: DST and eGoli (2004), South African National Biotechnology Audit: 2003, January.

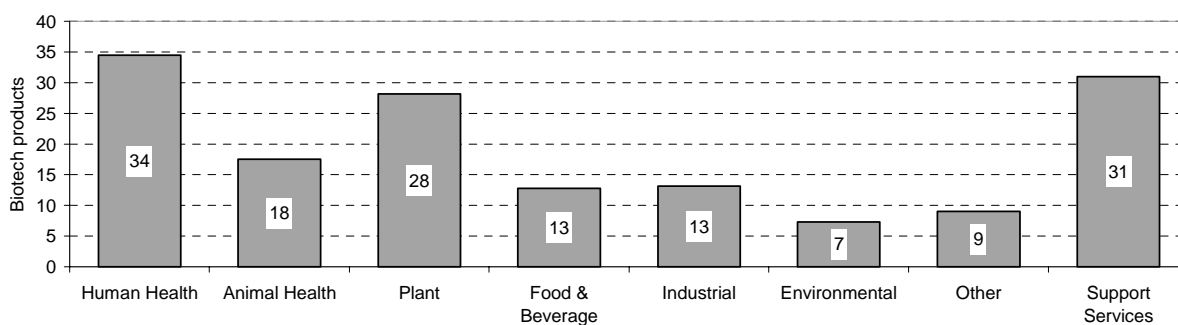
South Africa

Based on responses to government R&D survey

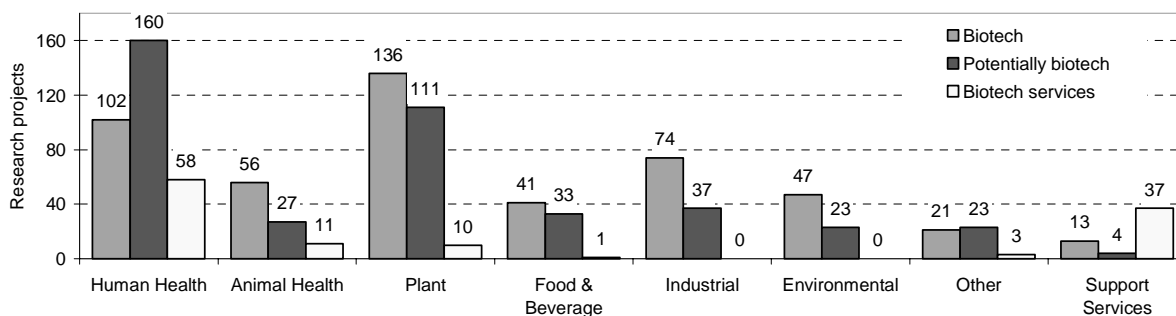
Research groups by type of biotechnology,¹ 2002-03
 Breakdown of the 622 research groups involved in biotech-related activities



Biotech products and/or services on the market – firms and research groups – by application, 2002-03
 Distribution of 154 biotechnology products and/or services



Biotechnology research projects by application field, 2002-03
 Distribution of 911 biotechnology research projects



1. Some groups appear in more than one type of biotechnology.

Source: DST and eGoli (2004), South African National Biotechnology Audit: 2003, January.