

Investment in research and development

The agrochemical industry is one of the world's most research-intensive sectors. A September 2005 Phillips McDougall study, commissioned by CropLife International, found that the agrochemical industry is among the top four global industries in terms of percentage of sales reinvested in research and development (R&D). Other findings are summarised below.

- The top 10 agrochemical companies (BASF, Bayer CropScience, Dow AgroSciences, DuPont, FMC, Makhteshim Agan, Monsanto, Nufarm, Sumitomo Chemical and Syngenta) spent \$2.25 b (US), or 7.5% of sales on research and development in 2004.
- R&D expenditure by R&D phase is as follows:
 - The discovery process accounts for the highest proportion of overall R&D expenditure, 31% (\$705.2m).
 - Existing product management (excluding re-registration but including all product development activities following the launch of a new active ingredient into a major market) accounts for 24% (\$558.7m) of expenditure.
 - New product development accounts for 23% (\$506.8m) of expenditure. This phase starts at the point when a company commits a new active ingredient to full development, generally marked by the decision to commence long-term toxicity tests. It ends with the registration and launch of a product in a major crop market (generally an OECD country).
 - Re-registration accounts for 18% (\$397.2m) of expenditure. Re-registration refers to any activities or studies that must be undertaken in response to the requirements of registration authorities in order to maintain a product's registration.
 - The most significant scientific and regulatory activity was biology based studies (\$708.1m), followed by chemistry (\$684.9m), human health risk assessment (\$320.4m), regulatory activities (\$279.6m), environmental risk assessment (\$174.9m) and patents (\$82.1m).
- 16% of industry's R&D expenditure is spent outside the 10 companies participating in the study.
- Approximately 10% of company employees work in agrochemical R&D (approximately 8,900 persons).
- Companies have introduced more than 300 new active ingredients since 1980.
- A new product takes 8-10 years and around \$180-\$220 million to develop.

The full report can be viewed at the following link

<http://www.croplife.org/library/attachments/f2632f6c-ac9c-4ac7-ac29-7f7a15f0d467/3/CropLifeRDstudy1.pdf>.