

Biotechnology in Animal Nutrition: *Strategic insights in the IP landscape by PatentSight advanced analytics*

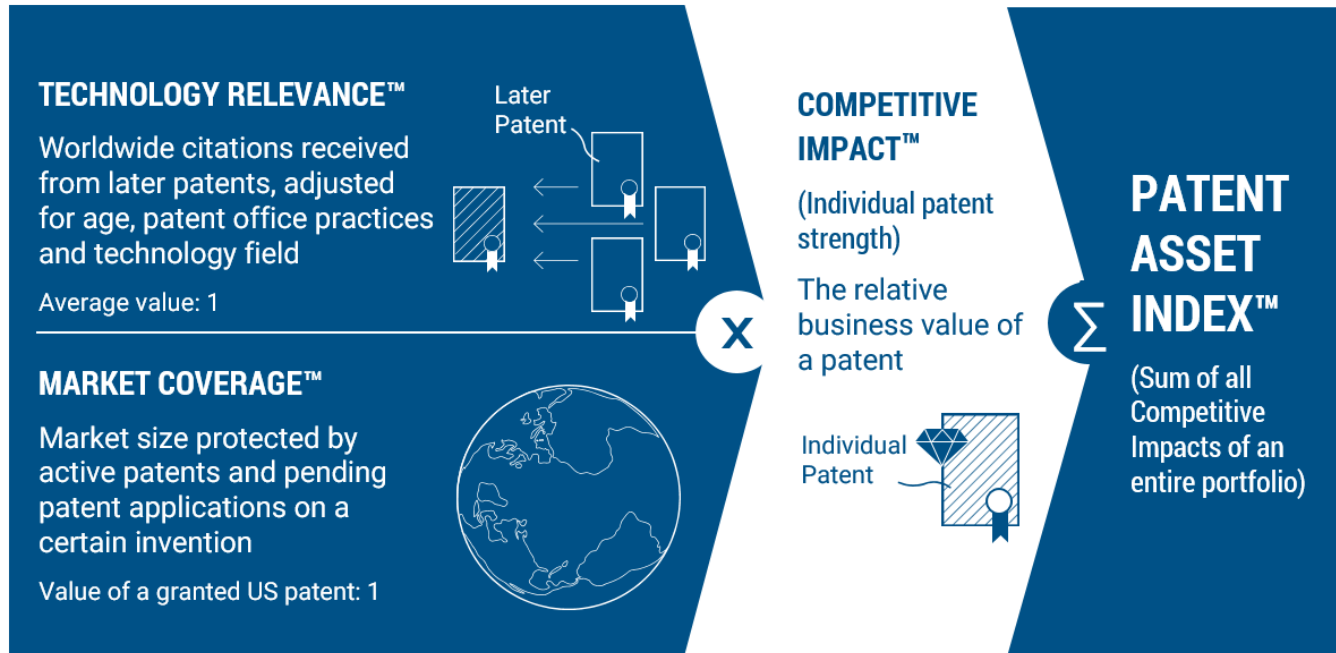
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CEPIUG 10th YAC, 9-11 September 2018

Content

- Patent Sight - Methodology
- Case study
- Insights

The PatentSight Methodology



The scientific publication was made in: Ernst, H., Omland, N. (2011): The Patent Asset Index – A New Approach to Benchmark Patent Portfolios. World Patent Information 33, pp. 34–41. An overview can be found in the document “Introduction to the Patent Asset Index” available from PatentSight.

Case Study by DSM

Goal:

Quick insight in the competitive IP landscape of biotechnology in the animal nutrition field.

Scope:

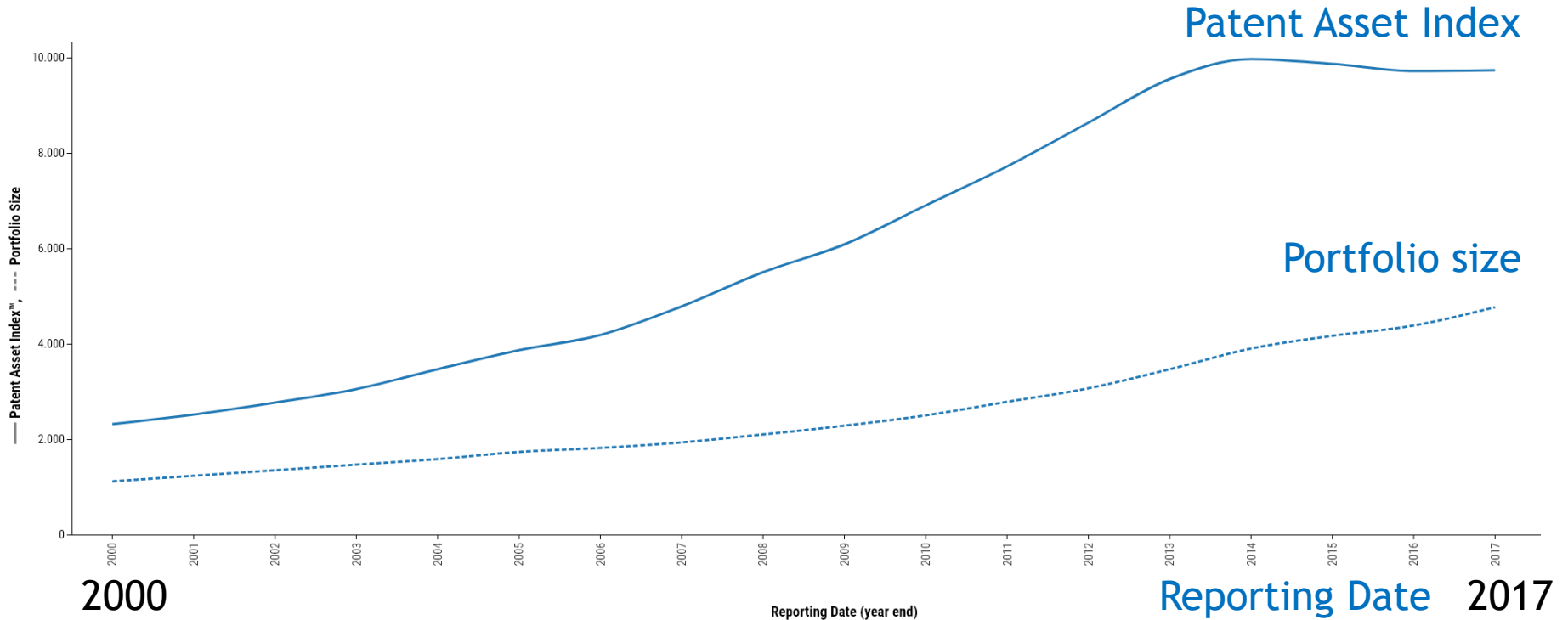
Very simple and quick search in PatentSight using IPC, CPC classes for biotech (C12N, C12P, C12Q & C12Y) and animal nutrition (A23K).

Selection on active patent families only.

Analysis:

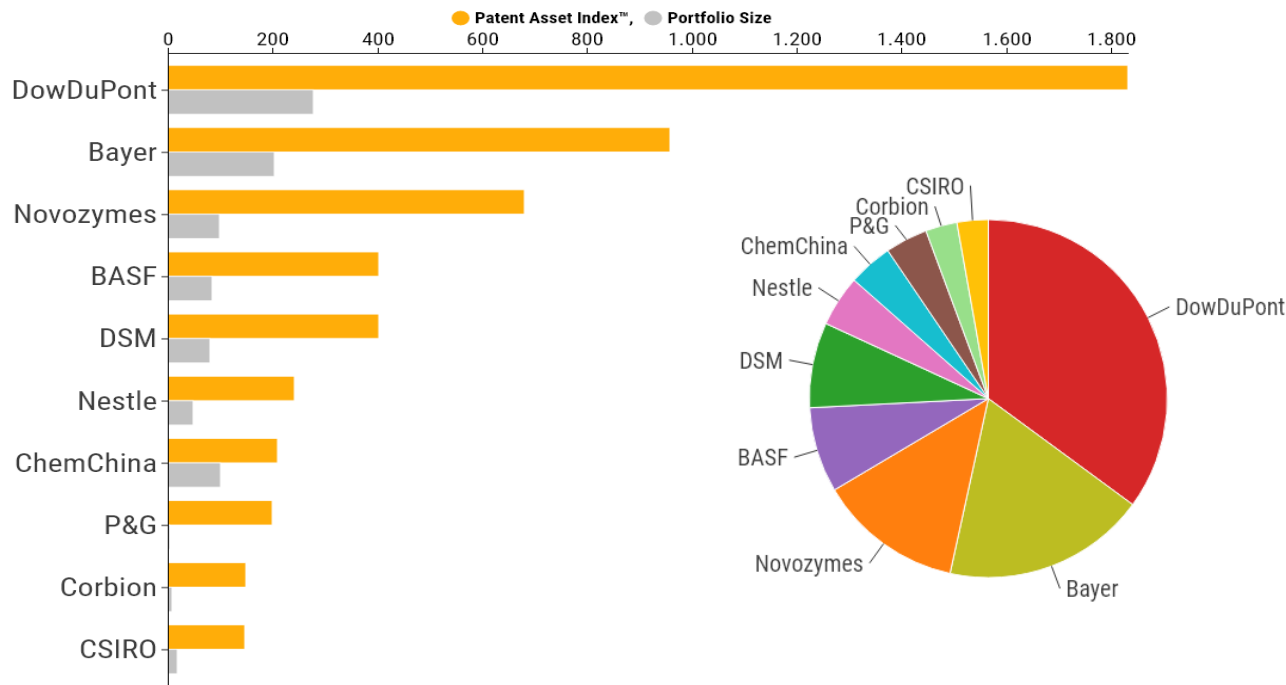
5084 active patent families of 2084 owners

Biotechnology in Animal Nutrition has been continuously growing in the last years



Reporting Date 2017

Overview of Top Players for Biotech Animal Nutrition ranked by PAI



All known players in the biotech animal nutrition area show up.

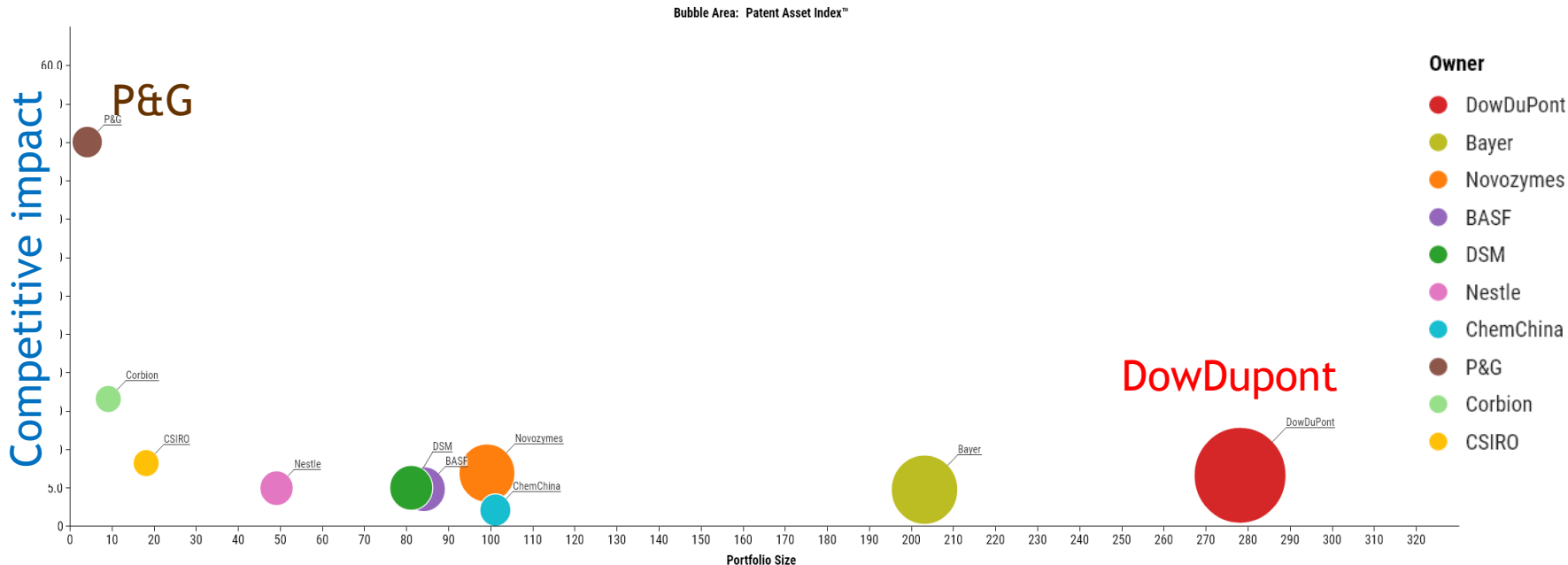
DSM has an excellent position

Sliced by: Owner Size: Patent Asset Index™

Owner (bars) shows items 1-10 of 2324, sorted by Patent Asset Index™ desc as at today.
Analysis based on 5,084 patent families active today.
Some "Owner" items are hidden

Filter legend: (IPC (smart) = (C12N 1, C12N 9, C12N 13, C12N 15, C12P, C12Q, C12R) OR CPC (smart) = (C12N 1, C12N 9, C12N 13, C12N 15, C12P, C12Q, C12R, C12Y)) AND (IPC (smart) = A23K OR CPC (smart) = A23K)

Main actors: Quality vs. Quantity -Live demo



Owner (bubbles) shows items 1-10 of 2324, sorted by Patent Asset Index™ desc as at today.

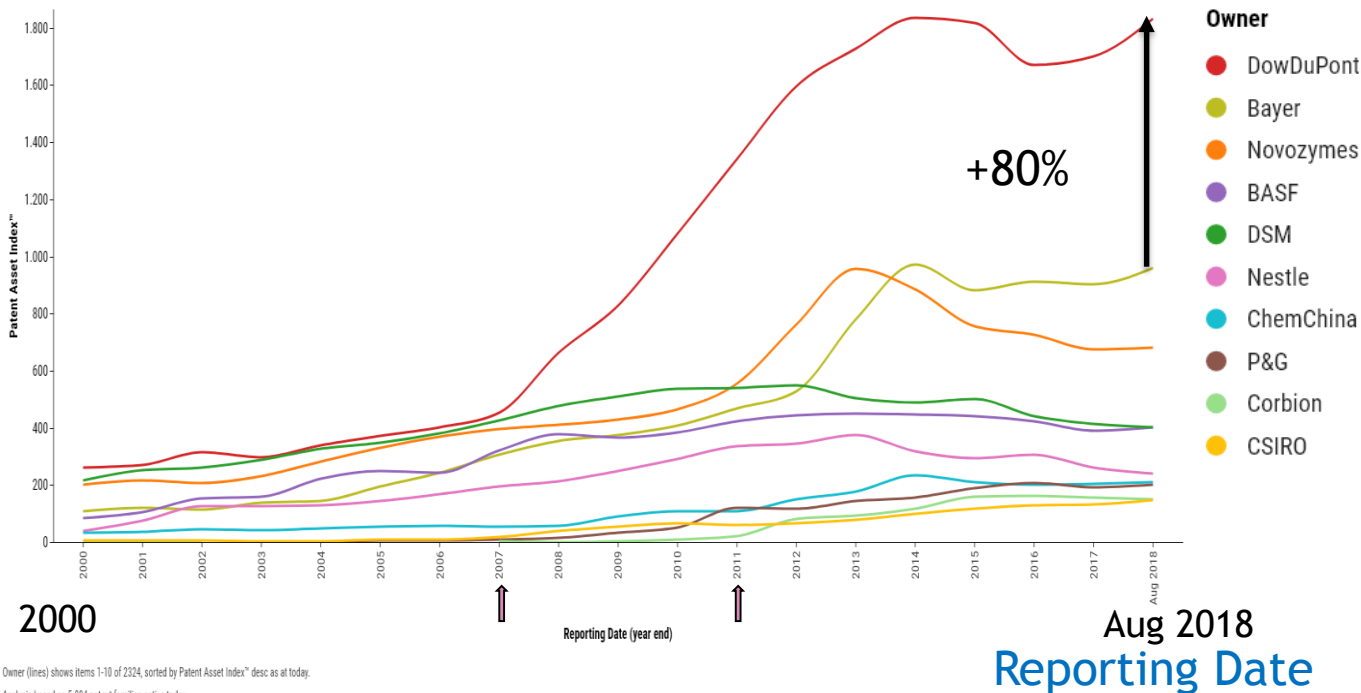
Today Portfolio size

Analysis based on 5,084 patent families active today.
Some "Owner" items are hidden

Filter legend: (IPC (smart) = (C12N 1, C12N 9, C12N 13, C12N 15, C12P, C12Q, C12R) OR CPC (smart) = (C12N 1, C12N 9, C12N 13, C12N 15, C12P, C12Q, C12R, C12Y)) AND (IPC (smart) = A23K OR CPC (smart) = A23K)

Patent Asset Index Trend

PAI



Dow DuPont growth driver since 2007

Novozymes and Bayer followed in 2011

This triggers further analysis

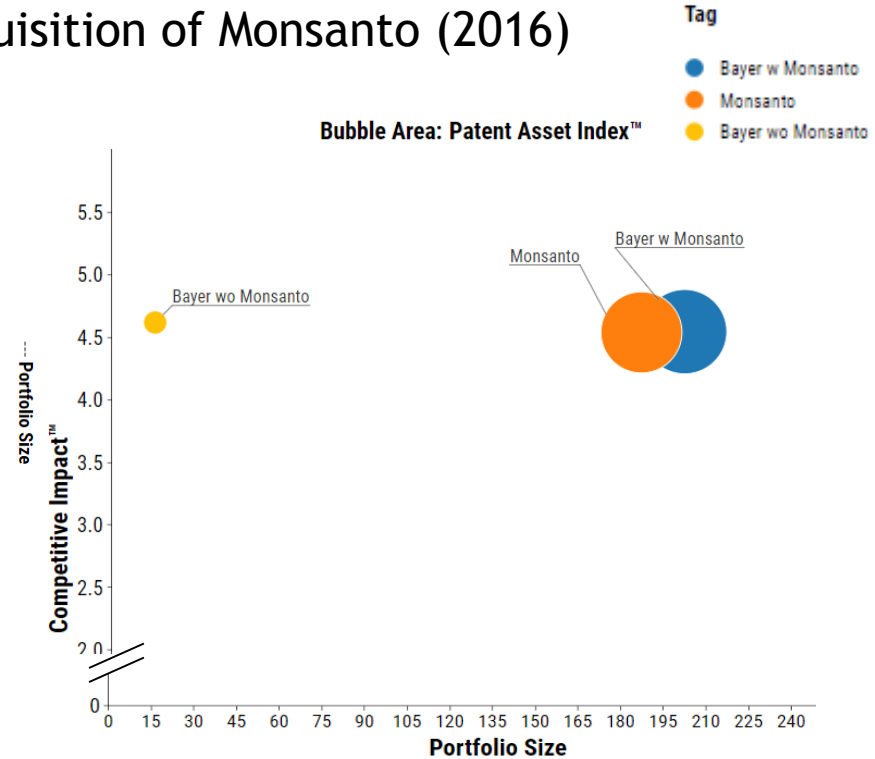
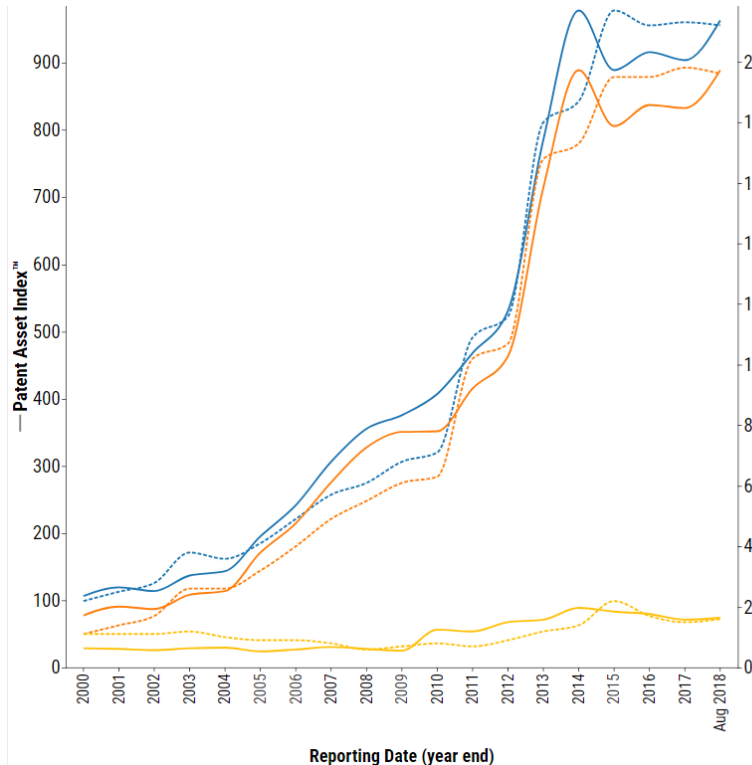
Owner (lines) shows items 1-10 of 2324, sorted by Patent Asset Index™ desc as at today.

Analysis based on 5,084 patent families active today.
Some "Owner" items are hidden

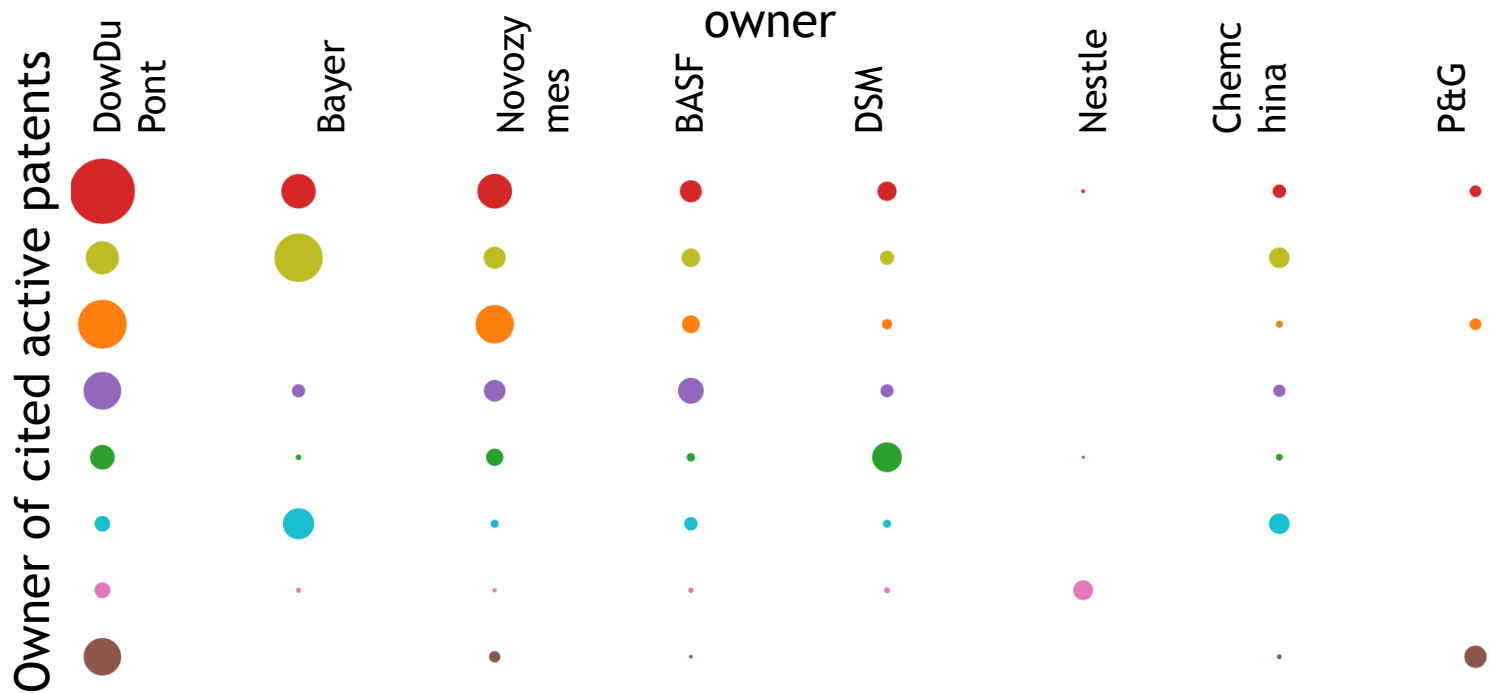
Filter legend: (IPC (smart) = (C12N 1, C12N 9, C12N 13, C12N 15, C12P, C12Q, C12R) OR CPC (smart) = (C12N 1, C12N 9, C12N 13, C12N 15, C12P, C12Q, C12R, C12Y)) AND (IPC (smart) = A23K OR CPC (smart) = A23K)

New players emerged after acquisitions in the biotech animal nutrition field

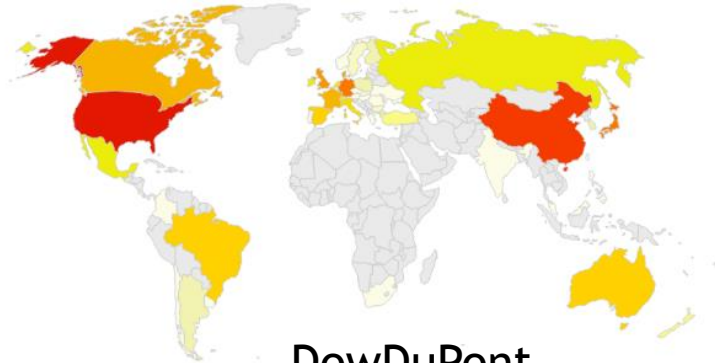
Example: Bayer acquisition of Monsanto (2016)



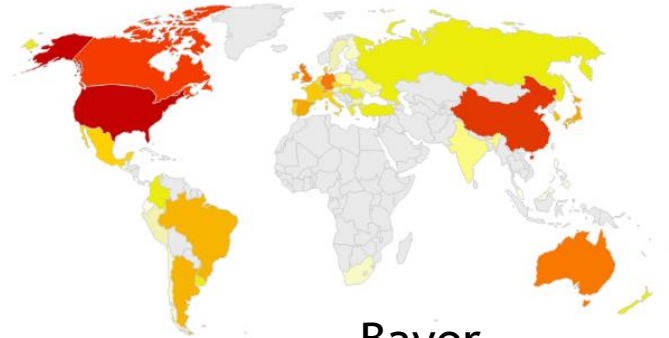
Portfolio interrelations Cited



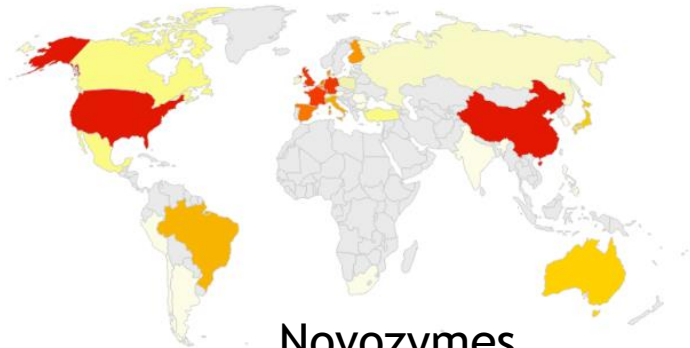
International Protection



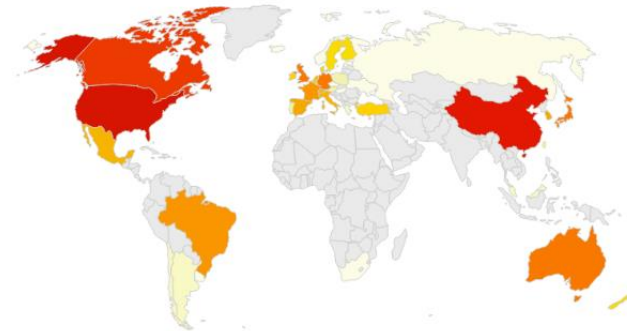
DowDuPont



Bayer



Novozymes



DSM



Enzymes overview: company vs cpc (C12Y)



Bubble Area: Patent Asset Index™

CPC (smart) Level 5.01 - Subgroup title (x-axis) shows items 1-10 of 78, sorted by Patent Asset Index™ desc as at today... (more)

<input type="checkbox"/>	<input checked="" type="checkbox"/> CPC (smart) Level 5.01 - Subgroup title	Patent Asset Index™	Portfolio Size
<input type="checkbox"/>	1 C12Y 302/01: Glycosidases, i.e. enzymes hydrolysing O- and S-glycosyl compounds (3.2.1)	1,401	273
<input type="checkbox"/>	2 C12Y 304/24: Metalloendopeptidases (3.4.24)	255	15
<input type="checkbox"/>	3 C12Y 304/21: Serine endopeptidases (3.4.21)	238	35
<input type="checkbox"/>	4 C12Y 301/03: Phosphoric monoester hydrolases (3.1.3)	215	68
<input type="checkbox"/>	5 C12Y 301/01: Carboxylic ester hydrolases (3.1.1)	200	46

Glucosidase is the most used enzyme in this field



Microorganisms overview: company vs cpc (C12R)



- 5 top players are active in the most used microorganisms in this field.
- DSM active with fungi/algae

Quick insight in the competitive landscape of biotechnology in the animal nutrition field.

INSIGHTS

- Patentsight useful tool for retrieving quick and valuable insights in a technology field.
 - Features : Active families /Ownership /Patent Asset Index
 - Visualizations appreciated, and initiate deeper discussions.
- Continuous growth in this IP field.
- Known competitors show up in this overview.
- new big players emerged after acquisitions.
- Small players with large impact can be identified.
- Citations useful for identifying players in different areas.
- Microorganisms and Enzymes are good example of different activities of these companies
- Fruitful hints for further analysis

Thank you for your attention !

Questions?

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Richard.Aarnoudse@dsm.com



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