II-10.2.1.2 Development of AEA pathway in China

After several years' development, AEA pathway has made great progress in operation process and equipment, the technology has become mature and the quality of the product also has become quite stable. The main breakthroughs can be described as follows:

……

Table II-10.2.1.2-1 Comparison between continuous hydrolysis process and batch hydrolysis process in Nantong Jiangshan

Item	Style of reactors	
	Batch hydrolysis process	Continuous hydrolysis process
Annual output/tonne	[redacted]	[redacted]
Reactor number	[redacted]	[redacted]
Operator number	[redacted]	[redacted]
Production efficiency of each reactor /(t/ a)	[redacted]	[redacted]
Productivity per worker (t/ a)	[redacted]	[redacted]

II-10.2.1.3 Theoretical consumption of raw materials for AEA pathway

……

Table II-10.2.1.3-1 Theoretical consumption of raw materials for AEA pathway in May 2008

	Raw materials	Unit consumption (t/t glyphosate)	Unit price of May. 2008 (RMB/t glyphosate)	Unit Cost(RMB/t glyphosate)
1	Glycine(Industrial grade)	[redacted]	35,000.00	[redacted]
2	Paraformaldehyde (37%)	[redacted]	8,730.00	[redacted]
3	Triethylamine (99.5%)	[redacted]	13,000.00	[redacted]
4	Methanol (95%)	[redacted]	4,000.00	[redacted]
5	Dimethyl ester	[redacted]	40,000.00	[redacted]
6	Hydrochloric acid (30%)	[redacted]	750.00	[redacted]
	Total			[redacted]

……

II-10.2.4 Comparison of different routes

Table II-10.2.4-1 Comparison of different routes

Routes	Strong points	Shortcomings	Current situation	Developing trend	Typical company
AEA pathway	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DEA route	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
IDAN route	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Based on the above discussion, we conclude that the AEA pathway is still competitive in China. But as the supply of DEA and IDAN becomes sufficient and their quality is as good as that from some overseas countries, the IDA route is sure to have a larger market share in the future.

II-10.3.3 Theoretical models for glyphosate formulations

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Table II-10.3.3-1 Raw materials consumption of 10% glyphosate-ammonium

Raw materials	Unit consumption(t/t)	Price(RMB/t)	Unit Cost(RMB/t)
Mother liquid(4%)[(1)]	[redacted]	400	[redacted]
Additive	[redacted]	8,000	[redacted]
Glyphosate technical（95%）	[redacted]	90,000	[redacted]
Ammonia[(3)]	[redacted]	800	[redacted]
Total			[redacted]

II-11.2 Marketing strategies

Table II-11.2-1 Marketing strategies of Chinese glyphosate industry

Strategy	Content
Focus on export	
Promoting Brand	
Promoting high content formulation	
Cooperation	
Perfecting sales network	
OEM	

III-1.5.2 Cost analysis of glyphosate

- **Production cost**

Table III-1.5.2-1 Estimation on raw material costs of glyphosate in [redacted] in May 2008

		Unit consumption (t/t)	Price (RMB/t)	Unit Cost (RMB/t glyphosate)
Raw materials cost	Glycine(Industrial grade)			
	Paraformaldehyde (96%)			
	Triethylamine (99.5%)			
	Methanol (95%)			
	Dimethyl ester			
	Hydrochloric acid (31%)			
	Total			

Table III-1.5.2-2 Estimation on manufacturing cost of glyphosate in [redacted] in May 2008

No	Item	Unit Cost (RMB / t glyphosate)
1	Raw materials cost	[redacted]
2	Utilities	[redacted]
3	Labour	[redacted]
4	Package	[redacted]
5	Maintenance	[redacted]
6	Depreciation	[redacted]
	Total	[redacted]

Table III-1.5.2-3 Estimation on management costs of glyphosate in [redacted] in May 2008

No.	Item	Unit Cost (RMB /t glyphosate)
1	Salary cost of management staffs and other auxiliary staffs	[redacted]
2	Materials cost for management	[redacted]
3	Interest on loan	[redacted]
4	Transportation cost	[redacted]
5	Amortisation of intangible asset	[redacted]
6	Distribution cost	[redacted]
7	Cost for three-waste treatment	[redacted]
	Total	[redacted]

Table III-1.5.2-4 Estimation on production costs of glyphosate in [redacted] in May 2008

No	Item	In 2008
		Unit Cost (RMB / t glyphosate)
1	Manufacturing cost	[redacted]
2	Management costs	[redacted]
	Total	[redacted]

- **Profit**

Table III-1.5.2-5 Profit estimation of glyphosate in [redacted] in May 2008

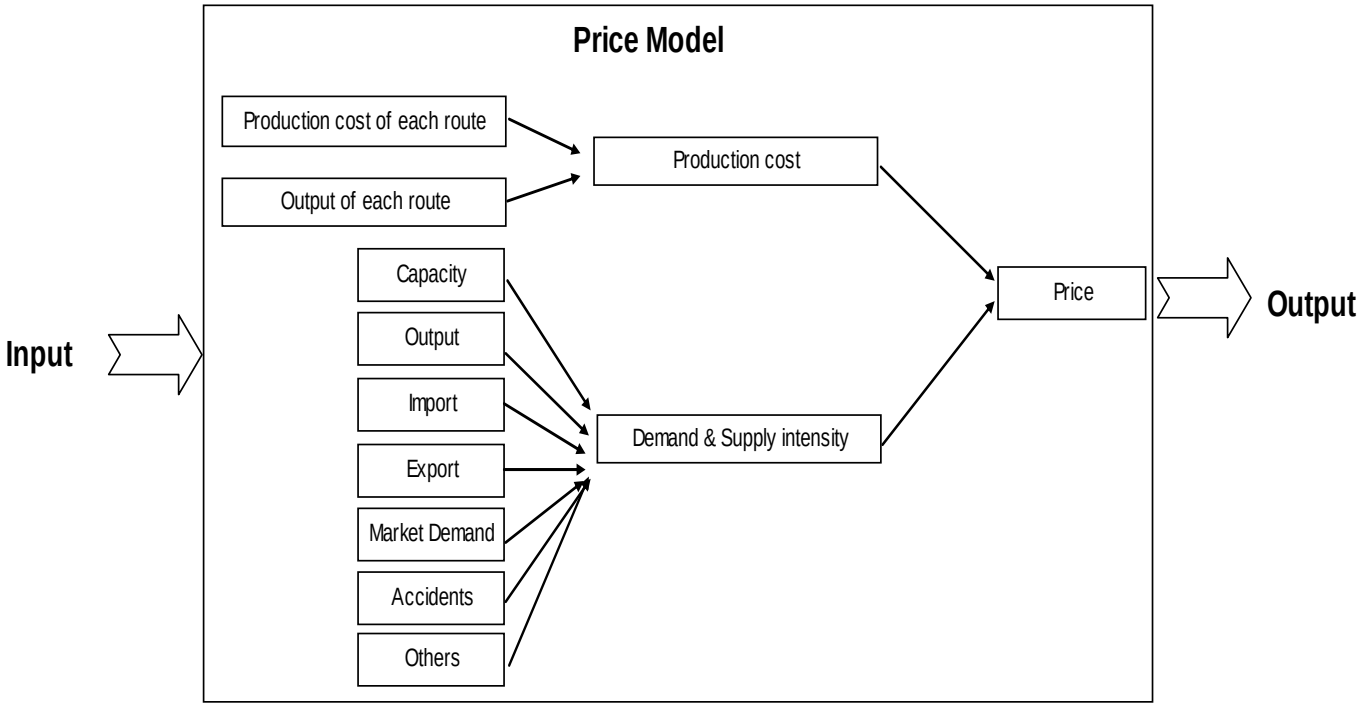
Item	RMB/t glyphosate	Remark
1.Total income		[redacted]
Price	[redacted]	
Other income	[redacted]	[redacted]
2.Expense		[redacted]
Total production costs	[redacted]	
Taxes	[redacted]	[redacted]
3.Gross profit	[redacted]	[redacted]
4.Profit tax	[redacted]	[redacted]
5.Profit after tax	[redacted]	[redacted]

IV-3 Comparison between the competitiveness of AEA pathway and IDA pathway and conclusion

Table IV-3-1 Competitiveness comparison between the AEA pathway and IDA pathway

Route	Process	Theoretical cost	Raw material supply	Current application	Bottleneck
AEA pathway	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DEA route	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
IDAN route	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Figure V-1 Price model of glyphosate technical



All the original data in this segment are mainly sourced from CCM's database and custom's data…….