

FORM IV

Disclaimer

Under Section 29(2) of the Competition Act 2002, the Competition Commission of India, if it is of the *prima facie* opinion that the combination has, or is likely to have, an appreciable adverse effect on competition, shall direct the parties to the said combination to publish details of the combination for bringing it to the knowledge or information of the public and persons affected or likely to be affected by such combination. In accordance with the provisions of Section 29(2) of the Act, the Hon'ble Commission requires Bayer AG to publish details of the Proposed Combination.

The contents given herein do not represent in any manner the views of the Commission and do not prejudice the view that the Commission may take of the Proposed Combination. The Commission is not responsible for any incorrect or misleading information contained herein.

Details of combination under subsection (2) of Section 29 of the Competition Act, 2002

1. The Competition Commission of India ('Commission') is investigating into the combination between *Bayer AG*, Kaiser-Wilhelm-Allee, 51368, Leverkusen, Germany (hereinafter 'Bayer' or 'Acquirer') and *Monsanto Company*, 2711 Centerville Road, Suite 400, Wilmington, Delaware 19808, County of New Castle (hereinafter 'Monsanto' or 'Target', and collectively with Bayer as 'Parties').
2. The details of the combination in the form of the summary, as provided by the Parties to the combination under column 1 of Form II are as under:

I. PARTIES TO THE PROPOSED COMBINATION

BAYER

3. Bayer, the Acquirer, is a German stock corporation, with its business activities carried out in three divisions:
 - (a) Pharmaceuticals;
 - (b) Consumer Health; and

(c) Crop Sciences.

4. Further, Bayer also has an Animal Health Business Unit, and has a 24.6% shareholding in Covestro AG, which is engaged in the Material Science business. Bayer is the ultimate holding company of 307 companies in 77 countries throughout the world with global headquarters in Leverkusen, Germany.
5. In India, Bayer operates its crop science business through its subsidiaries, (i) Bayer CropScience Limited, (ii) Bayer Seeds Private Limited, (iii) Bayer BioScience Private Limited and (iv) Bayer Vapi Limited. The other businesses named above, are operated through Bayer Pharmaceuticals Private Limited, Bayer Zydus Pharma Private Limited¹ and Covestro (India) Private Limited.

MONSANTO

6. Monsanto is a Delaware corporation and along with its subsidiaries, is a global provider of agricultural products for farmers, viz. seeds, biotechnology traits, and herbicides.
7. Monsanto is present in India through its subsidiaries, (i) Monsanto India Limited, (ii) Monsanto Holdings Private Limited, (iii) Monsanto Investments India Private Limited, and (iv) Mahyco Monsanto Biotech (India) Private Limited. Monsanto also indirectly holds a minority shareholding of 26% in Maharashtra Hybrids Seeds Company Limited (Mahyco).

II. THE NATURE OF THE PROPOSED COMBINATION

8. On 14 September 2016, the Parties entered into a definitive agreement and plan of merger by which the entire shareholding of Monsanto will be acquired by Bayer.
9. The Proposed Combination is in the nature of an acquisition (under Section 5(a) of the Competition Act, 2002). As a result of the Proposed Combination, Monsanto will become a wholly owned subsidiary of Bayer.
10. On the closing of the Proposed Combination, each issued and outstanding share of Monsanto will be converted into the right to receive USD 128.00 (one hundred and twenty eight dollars) per share in cash, without interest.

¹ A 50:50 joint venture between Bayer Healthcare and Zydus Cadila.

III. THE AREAS OF ACTIVITIES OF THE PARTIES TO THE COMBINATION

Bayer's Business Activities

11. Bayer operates in pharmaceuticals, crop sciences, consumer health, and animal health with a broad range of products in each division. Bayer holds 24.6 % in Covestro AG, engaged in the material sciences business.²

Monsanto's Business Activities

12. Monsanto is a sustainable agricultural company engaged in the production of agricultural and vegetables seeds, herbicides/weed control solutions, and traits and technology.³

IV. THE MARKET(S) (INCLUDING ITS STRUCTURE AND STATE OF COMPETITION) IN WHICH THE COMBINATION WILL HAVE OR IS LIKELY TO HAVE AN IMPACT

13. At the outset, the Parties believe that the Proposed Combination does not give rise to competition concerns regardless of the manner in which the markets are delineated. The Parties are engaged in complementary business practices and the Proposed Combination seeks to capitalize on the synergies arising as a result of the complementarities. The Parties, therefore, believe that it is not necessary to definitively conclude on market definition for the purposes of the Proposed Combination.
14. In India, Bayer and Monsanto, prior to the closing of the Proposed Combination operate in the following product areas:

² <https://www.bayer.com/en/profile-and-organization.aspx>

³ <https://monsanto.com/company/>

Segment	Sub-segment	Bayer	Monsanto
Crop Protection	Selective Herbicides	Present	Not present
	Non-selective herbicides	Present ⁴	Present ⁵
	Insecticides	Present	Not present
	Fungicides	Present	Not present
	Seed dressing	Present	Not present
	Growth regulators	Present	Not present
Agricultural Seeds	Cotton	Present	Present ⁶
	Corn	Not present	Present
	Mustard	Present	Not present
	Millet	Present	Not present
	Rice	Present	Not present
Vegetable Seeds	Broccoli	Not present	Present
	Carrot	Present	Not present ⁷
	Cabbage	Present	Present
	Cauliflower	Present	Present
	Cucumber	Present	Present
	Eggplant	Present	Present
	Bitter Gourd	Present	Present
	Bottle Gourd	Present	Present
	Ridge Gourd	Present	Not present
	Garden Bean	Not present	Present
	Lettuce	Not present	Present
	Marigold	Present	Not present
	Melon	Present	Present
	Okra	Present	Present
	Onion	Present	Present
	Radish	Present	Not present
	Pickling Cucumber / Gherkin	Present	Not present
	Hot Pepper	Present	Present

⁴ It may be noted that Bayer is selling its entire non-selective herbicides business worldwide, therefore, this overlap ceases to exist.

⁵ Monsanto also sells limited quantities of bio stimulators in India as part the BioAg Alliance in partnership with Novozymes. These products are not seed treatments or growth regulators.

⁶ For reasons unrelated to the Proposed Combination, Monsanto is selling its branded cotton business in India to Tierra Agrotech Private Limited.

⁷ Monsanto sold minimal quantities of Carrot seeds in 2016-17 on a trial basis (440 kgs for INR 7 Lakhs).

Segment	Sub-segment	Bayer	Monsanto
	Sweet Pepper	Present	Present
	Sweetcorn	Not present	Present
	Tomato	Present	Present
	Watermelon	Present	Present
Environmental Science ⁸	Stored Products	Present	Not present
	Industrial Vegetation Management	Not present	Present
	Pest Control Operators	Present	Not present
	Rural Hygiene Insecticides	Present	Not present
	Vector control products	Present	Not present
Traits and Technology	Licensing of Bt cotton technology	Not present	Present

Note: It is important to note that the overlaps identified above only depict presence of either of the Parties in the same product area and not necessarily that the products are identical/substitutable/similar products.

15. In addition, the Proposed Combination gives rise to limited vertical relationships (both potential and existing) which will be discussed subsequently.

16. Post the notification of this Proposed Combination with the Hon'ble Commission, Bayer has executed a definitive agreement with BASF dated 13 October 2017 to divest the following businesses:

- Bayer's worldwide glufosinate ammonium business;
- Bayer's Liberty Link technology which confers traited plants with a resistance to the non-selective herbicide glufosinate ammonium, including the related intellectual property licensing business worldwide;
- Virtually all of Bayer's agricultural seeds and traits business worldwide (including all of its transgenic events and traits in cotton, corn, oilseed rape, canola and soybean). The very limited agricultural seeds and traits activities that are not part of the agreement with BASF include Bayer's small Indian cotton seeds business;

⁸ PCO (pest control operators): insecticides, termiticides and rodenticides that are sold to so-called PCO companies that provide insect and rodent control services to municipalities, hotels, restaurants and in residential areas.

Vector control: products for the control of insects bearing diseases, e.g., malaria, dengue.

Stored products: products for the protection of grain against insects.

Rural hygiene: products for the control of insects (fly control) in animal husbandries (mainly poultry) in the environment of the animals.

IVM (industrial vegetation management): products for weed control on railways and roadways.

- Bayer’s primary R&D facility for GM seeds and traits in Morrisville, North Carolina, USA.

17. As a result of the divestitures to BASF, there is no longer any overlap between the Parties in production and/or sale of non-selective herbicides in India.

18. In addition, Monsanto, for reasons unrelated to the Proposed Combination, has executed an agreement dated 31 August 2017 for selling its branded cotton business to Tierra Agrotech Private Ltd⁹ and therefore there is no longer any horizontal overlap between the Parties in cotton seeds in India.

19. The structure and state of competition in each of the product areas identified above, along with a competition assessment is provided herein below. This summary also captures a few other key issues with respect to operations of the Parties, as directed to be published by the Commission.

V. MARKET FOR SALE OF NON-SELECTIVE HERBICIDES IN INDIA

Market for sale of NSH in India		
(2015) (in %) (in ranges)		
Bayer	Monsanto	Others
0*	20-25	Excel (15-20) Syngenta (5-10) UPL (0-5)

(*Bayer is divesting its global glufosinate ammonium business to BASF.)

20. Prior to the Proposed Combination, Bayer has a negligible market share (of less than 1 %) while Monsanto has a market share of about 20 - 25 % in the market for sale of non-selective herbicides in India. However, subsequent to this contemplated Proposed Combination, Bayer has executed an agreement with BASF on 13 October 2017 to divest its global glufosinate ammonium business and, therefore, the insignificant overlap in the production and/or sale of non-selective herbicides in India does not remain. Bayer is therefore of the view that the Proposed Combination will not give rise to any appreciable adverse effect on competition (**AAEC**) in the market for non-selective herbicides in India.

⁹ <https://economictimes.indiatimes.com/news/economy/agriculture/tierra-agrotech-buys-monsanto-cotton-seed-business/articleshow/60431009.cms>

VI. MARKET FOR AGRICULTURAL SEEDS IN INDIA

Cotton

Upstream market for licensing of traits and technology			Downstream market for sale of cotton seeds		
(2015) (in %) (in ranges)					
Bayer	Monsanto	Others	Bayer	Monsanto	Others
0	95-100	0-5 (Nath, JK, Metahelix)	0-5	0* (0-5)**	Nuziveedu (15-20) Kaveri (10-15), Ajeet (10-15), Mahyco (0--5)

(*Monsanto is in the process of selling off its branded cotton seeds business in India to Tierra Agrotech)

(**Monsanto's market share range prior to the sale of branded cotton seeds business in India to Tierra Agrotech.)

Downstream Market for sale of cotton seeds in India

21. As stated above, the overlap between the Parties has been eliminated in the downstream market for sale of cotton seed in India further to Monsanto's proposed sale of its branded cotton business to Tierra Agrotech Private Ltd (which was done for reasons unrelated to the Proposed Combination).

Upstream market for licensing of traits and technologies for cotton in India

22. With respect to the upstream market for licensing of traits and technologies, it may be noted that globally, Bayer has presence in upstream market through TwinLink and TwinLink Plus. However, Bayer has no presence in this segment in India. Monsanto, through its subsidiaries in India owns patents over the technology pertaining to Bollgard® II – which is used in the production of a genetically modified cotton seed in India. In addition to Monsanto there are two more players in the market of cotton GM traits i.e. JK Agri Seeds and Nath Seeds, who have a share of around 0-5 %. In addition, entities such as DowDupont, CICR, Metahelix, Krishidhan and Delhi University have technologies in the pipeline at advanced stage of regulatory approval in India. JK Seeds is part

of the larger JK Group of Industries, while Metahelix is a TATA group company. Bayer is not present in the upstream market nor is it a potential competitor.¹⁰

23. The Proposed Combination does not affect the existing upstream market structure. It merely leads to change of control from Monsanto to Bayer regarding Monsanto's Bollgard II technology. Bayer's global GM traits for its agricultural seeds, including cotton, will be divested to BASF.
24. Moreover, it should be mentioned that the licensing of cotton traits and technology, is regulated by the Government in terms of prices and potentially even the terms of licensing agreements.¹¹ This regulation significantly limits the commercial freedom of any owner of the Bollgard II technology.
25. The related downstream market for the production and sale of genetically modified cotton seeds, in view of the broad based licensing practices adopted by Monsanto (through its subsidiary Mahyco Monsanto Biotech Limited), is highly fragmented (more than 45 players). Bayer is therefore of the view that the Proposed Combination will not give rise to an appreciable adverse effect on competition in the relevant market.
26. There is no risk that the Proposed Combination could lead to the foreclosure of seed companies that compete with Bayer on the downstream market for Bt traited cotton seed. Even leaving aside the legal requirements resulting from the regulation, post-closing, Bayer would have no incentive to cease licensing the Bollgard® traits to rival seed companies. With less than 5 % of the cotton seed market in India the combined entity would unlikely be able to recoup the lost profits upstream by increased profits on the downstream seeds market as the combined entity's downstream market share is negligible and the combined entity cannot expand capacity in a timely manner. Indeed, Monsanto has widely licensed its Bollgard II technology to cotton seed producers in India in the past even though Monsanto used to have an Indian cotton seeds business of its own. This shows that the fact of owning a downstream cotton seeds business does not enable or incentivize the owner of Bollgard II technology to foreclose other cotton

¹⁰ Bayer has terminated its GlyTol LibertyLink TwinLink Plus (GLTP) project in India and does not intend to make any forays into this segment. It may be noted the GLTP gives cotton growers flexible weed control options because they can use Liberty® herbicide or glyphosate for over-the-top, broad-spectrum herbicide applications. Plus, the trait package gives growers the ability to rotate herbicide modes of action to control weeds effectively and reduce the potential for weed resistance. However, this is not available in India.

¹¹ As per the Cotton Seeds (Price Control) Order, 2015, *All License Agreement, shall be as per format, as may be prescribed by notification*. In pursuance of the same the Government issued guidelines for the same in 2016, however withdrew the same placing them in the public domain for 90 days for consultation, with the intention to introduce them after a wider consultative process. See generally, <http://www.livemint.com/Politics/lqiyCWAQjx06CApgK2MWJM/Govt-to-withdraw-stringent-licensing-rules-for-GM-seeds.html>. MMB has filed a writ petition before the Hon'ble Delhi High Court challenging fixation of Trait value pursuant to the Cotton Seeds Price (Control) Order. The said writ petition is currently pending adjudication before the Hon'ble Delhi High Court.

seed companies. Accordingly, there is no reason to expect that the combined entity would have the ability or incentives to foreclose.

27. Further, it is important to note that Bayer has already entered into a definitive agreement with BASF to, *inter-alia*, divest all of its global transgenic events in cotton as well as in and out-licensing contracts, related registrations and registration data, and all intellectual property related to its traits. Bayer is also transferring its traits research facilities to BASF. In effect, Bayer will no longer retain any of its GM traits relating to cotton seeds worldwide.

28. In light of the above, Bayer is therefore of the view that the Proposed Combination will not give rise to any AAEC in this relevant market.

Rice

Upstream market for hybrids or parental lines			Downstream market for sale of rice seeds		
(2015) (in %) (in ranges)					
Bayer	Monsanto	Others	Bayer	Monsanto	Others
Unknown	Not active	Various	10-15 (40-45 for hybrids only)	Not active	DowDupont (15-20), Metahelix (5-10), - Syngenta (5-10), Mahyco (0-5) (for hybrids only)

29. Monsanto is not present in the market for the commercialization of rice seeds in India and therefore there are no horizontal overlaps in this market. Therefore, the Proposed Combination does not affect the existing market structure. It may be noted that there are also very significant competitors like DowDuPont with 15-20 %, Metahelix with 5-10 % while Mahyco has a very small market share in the range of about 0-5 % for hybrid rice seeds.

30. Further, Monsanto is also not present in the licensing of parental lines or hybrids of rice seeds whereas Bayer has been present in this upstream market for the last several years. It is inconceivable to presume that Bayer would be able/willing

to leverage on the downstream market because of its presence in the upstream market. Bayer does not have the ability or incentive to adopt such a foreclosure strategy and has in fact never adopted such a strategy in the past. The Proposed Combination does not change Bayer's existing position in the upstream and downstream markets.

Corn

Upstream market for hybrids or parental lines			Downstream market for sale of corn seeds		
(2015) (in %) (in ranges)					
Bayer	Monsanto	Others	Bayer	Monsanto	Others
Not active	Unknown	Various	Not active	15-20	Dupont (20-25), Syngenta (10-15), Kaveri (5-10), Mahyco (0-5)

31. Monsanto is present in both the upstream market of licensing of parental lines/hybrids of corn seeds and the downstream markets of commercialization of corn seeds, while Bayer is not present in either. Therefore, the Proposed Combination does not affect the existing market structure. Monsanto has a 15-20 % market share in the downstream market while other competitors also have considerable presence. DowDuPont has 20-25 %, Syngenta has 10-15 %, while Kaveri and Nuziveedu have about 5-10 and 0-5 % respectively. Mahyco has a very miniscule market share of 0-5%.

32. It is inconceivable to suggest that post combination, Bayer would be able to leverage Monsanto's position in the downstream market because of Monsanto's presence in the upstream market when Monsanto has no incentives to adopt such a foreclosure strategy and when Bayer has in fact never adopted such a strategy over the past many years in any other seeds where it has had higher market shares in India.

Millet

Upstream market for hybrids or parental lines			Downstream market for sale of millet seeds		
(2015) (in %) (in ranges)					
Bayer	Monsanto	Others	Bayer	Monsanto	Others
Unknown	Not active	Various	20-25 15-20 (for hybrids only)	Not active	Dupont (35-40), Kaveri (5-10), Metahelix (10-15), Mahyco (0-5) (for hybrids only) Dupont(30-35), Kaveri (0-5), Metahelix (10-15) Mahyco (0-5) (for hybrids and OPV)

33. Bayer is present in both the upstream market of licensing of parental lines/hybrids of millet seeds and the downstream market of commercialization of millet seeds. Monsanto is not present in either the upstream market of licensing of parental lines/hybrids of millet seeds or the downstream market of commercialization of millet seeds. Therefore, the Proposed Combination does not affect the existing market structure. Bayer has a market share of 15-20 %. Other competitors include DowDuPont with a 35-40 % market share while Metahelix has 10-15 %, Kaveri 0-5 % and Mahyco has 0-5 %.

34. It is inconceivable to predict that Bayer would be able to leverage on the downstream market because of its presence in the upstream market when it has

no ability or incentives to adopt such a foreclosure strategy and has in fact never adopted such a strategy over the past many years.

VII. LICENSING OF HERBICIDE TOLERANT TRAIT/TECHNOLOGY FOR SEEDS IN INDIA

35. As a matter of record, Bayer globally offers herbicide tolerant trait not only for glufosinate ammonium (i.e. LibertyLink) but also for glyphosate (i.e. Glytol). However, neither Monsanto's Roundup Ready traits nor Bayer's LibertyLink traits are available or sold in India. In fact, Bayer has withdrawn its application and no regulatory approvals for entering this market are even pending before any government authority.
36. The application for approval of Bollgard II / Roundup Ready flex trait was also withdrawn by Monsanto in India. Therefore, the Parties do not have any presence in this segment of the market in India.
37. Without prejudice to the above, Bayer has entered into a definitive agreement with BASF to, *inter-alia*, divest its intellectual property including the foundational patents related to the Bar/Pat gene which confers plants with a resistance to the non-selective herbicide glufosinate ammonium as well as trademarks, *i.e.* LibertyLink and all associated registrations and registration data. In effect, Bayer will no longer retain its LibertyLink Technology (or any other GM trait) and business worldwide. Bayer is therefore of the view that the Proposed Combination will not give rise to any AAEC in this relevant market.

VIII. MARKET FOR VEGETABLE SEEDS IN INDIA

38. The Parties overlap in 13 vegetable seeds in India. Post the Proposed Combination, Bayer is therefore of the view that the Proposed Combination will not give rise to any AAEC in this relevant market for the following reasons:

SECTION 20 (4) ASSESSMENT – MARKET FOR VEGETABLE SEEDS IN INDIA

39. The assessment highlights the conditions prevalent in the market for vegetable seeds.

- (a) Market share, in the relevant market, of the persons or enterprise in a combination, individually and as a combination (Section 20 (4)(h))

40. The indicative market shares of the Parties and competitors in the 13 vegetable seeds in which they overlap, in ranges, based on value of sales for calendar year 2015, for both hybrid and open pollinated vegetable (OPV) seeds, is as follows:

Vegetable Seeds	Bayer %	Monsanto %	Combined %	Incremental increase %	MAIN COMPETITORS				
					1	2	3	4	5
Cabbage**	5-10	20-25	25-30	5-10	10-15 (Syngenta)	5-10 (Sakata)	0-5 (Takii)	0-5 (Mahyco)	0-5 (Tokito)
Cauliflower	0-5	15-20	15-20	0-5	10-15 (Syngenta)	5-10 (Sakata)	5-10 (Advanta)	0-5 (Takii)	0-5 (Mahyco)
Cucumber	5-10	10-15	10-15	5-10	5-10 (East West)	5-10 (Raasi)	5-10 (Namdev)	0-5 (Mahyco)	0-5 (Syngenta)
Eggplant*	5-10	0-5	10-15	0-5	5-10 (Mahyco)	5-10 (VNR)	5-10 (Doctor)	5-10 (Clause)	-
Bitter Gourd	25-30	0-5	25-30	0-5	25-30 (East West)	10-15 (VNR)	0-5 (Mahyco)	0-5 (Namdhari)	0-5 (Syngenta)
Bottle Gourd	0-5	0-5	0-5	0-5	30-35 (Mahyco)	20-25 (East West)	0-5 (Namdhari)	0-5 (Syngenta)	-
Melon	0-5	0-5	5-10	0-5	5-10 (Known You)	0-5 (Namdhari)	0-5 (Green Fields)	-	-
Okra	25-30	0-5	25-30	0-5	5-10 (JK Seeds)	5-10 (Mahyco)	5-10 (Syngenta)	0-5 (Advanta)	0-5 (Nuziveedu)
Onion	0-5	0-5	0-5	0-5	10-15 (East West)	-	-	-	-
Hot Pepper	15-20	5-10	25-30	5-10	5-10 (Syngenta)	5-10 (Mahyco)	5-10 (Bejo)	5-10 (Namdhari)	0-5 (East West)
Sweet Pepper	0-5	5-10	10-15	0-5	60-65 (Syngenta)	0-5 (Mahyco)	0-5 (Namdhari)	0-5 (East West)	-

Tomato	15-20	10-15	25-30	10-15	20-25 (Syngenta)	5-10 (Namdhari)	5-10 (Clause)	-	-
Watermelon	15-20	0-5	20-25	0-5	30-35 (Syngenta)	15-20 (Namdhari)	0-5 (Mahyco)	-	-

*Bayer has stopped producing eggplant seeds in India since 2015 and is now only selling unsold inventory.

**Bayer has stopped breeding cabbage seeds since 2017 and sales of cabbage seeds will completely stop once the parent seed has been utilized which should be between 2-3 years.

41. As the figures above show, only in one vegetable seed – i.e. tomato – the incremental increase is marginally higher than 10 %. The Parties face significant competition from other players like Syngenta 20-25 %, Namdhari 5-10 % and Clause 5-10 %. Mahyco's market shares are so insignificant that it does not form part of the top 5 companies selling tomato seeds in India.

42. Open pollinated and hybrid seeds may be interchangeably used by farmers and are substitutable products. However, the indicative market shares (in ranges) of the Parties and competitors in the 13 vegetable seeds in which they overlap, based on value of sales for calendar year 2015, for only hybrid seeds, is as follows:

Vegetable Seeds	Bayer %	Monsanto %	Combined %	Incremental increase %	MAIN COMPETITORS				
					1	2	3	4	5
Cabbage	5-10	40-45	50-55	5-10	15-20 (Syngenta)	5-10 (Sakata)	5-10 (Takii)	5-10 (Mahyco)	0-5 (Tokito)
Cauliflower	0-5	15-20	15-20	0-5	10-15 (Syngenta)	5-10 (Sakata)	5-10 (Advanta)	0-5 (Takii)	0-5 (Mahyco)
Cucumber	10-15	15-20	25-30	10-15	10-15 (East West)	5-10 (Raasi)	5-10 (Namdev)	0-5 (Mahyco)	0-5 (Syngenta)
Eggplant	5-10	0-5	10-15	0-5	5-10 (Mahyco)	5-10 (VNR)	5-10 (Doctor)	5-10 (Clause)	-
Bitter Gourd	30-35	0-5	30-35	0-5	35-40 (East West)	10-15 (VNR)	0-5 (Mahyco)	0-5 (Namdhari)	0-5 (Syngenta)
Bottle Gourd	0-5	0-5	5-10	0-5	40-45 (Mahyco)	25-30 (East West)	0-5 (Namdhari)	0-5 (Syngenta)	-

Melon	0-5	0-5	5-10	0-5	5-10 (Known You)	0-5 (Namdhari)	0-5 (Green Fields)	-	-
Okra	30-35	0-5	30-35	0-5	5-10 (JK Seeds)	5-10 (Mahyco)	5-10 (Syngenta)	0-5 (Advanta)	0-5 (Nuziveedu)
Onion	15-20	35-40	50-55	15-20	(East West)	-	-	-	-
Hot Pepper	20-25	10-15	35-40	10-15	5-10 (Syngenta)	5-10 (Mahyco)	5-10 (Bejo)	5-10 (Namdhari)	0-5 (East West)
Sweet Pepper	0-5	5-10	10-15	0-5	60-65 (Syngenta)	0-5 (Mahyco)	0-5 (Namdhari)	0-5 (East West)	-
Tomato	15-20	10-15	30-35	10-15	20-25 (Syngenta)	5-10 (Namdhari)	5-10 (Clause)	-	-
Watermelon	15-20	10-15	20-25	0-5	30-35 (Syngenta)	15-20 (Namdhari)	0-5 (Mahyco)	-	-

43. It should be noted that in only 4 vegetable seeds, while considering only hybrid market shares, the incremental increase is over 10 %. For cucumber, the combined market share of the Parties is 25-30 % while East West has a 10-15 % market share. Other competitors in this relevant market include Raasi Seeds with a 5-10 %, Namdev with 5-10 % and Mahyco with about 0-5 % market share.
44. With respect to hot pepper seeds, the combined market share of the Parties is about 35-40 %. Syngenta has a market share of 5-10 % while Mahyco has 5-10 % market share. Bejo and Namdhari have a market share of 5-10 % each.
45. With respect to tomato seeds, the combined market share of the Parties is about 30-35 %. Syngenta has a market share of 20-25 % while Namdhari and Clause have a market share of 5-10 % each. Mahyco's market shares are so insignificant that it does not form part of the top 5 companies.
46. It is important to note that over 98 % of the market for sale of onion seeds comprises of open pollinated seeds. In view of this market reality, the competitive impact of 2 % of the market cannot be assessed and no concerns with respect to the Parties' hypothetically high ought to be raised.

(b) Actual and potential level of competition through imports in the market (Section 20 (4)(a))

47. The bulk import of vegetable seeds is permitted under Open General License (OGL) by the eligible importers, i.e.,

- a) Departments of Agriculture/Horticulture of the State Governments, State Agricultural Universities and ICAR;
- b) Seed producing Indian companies/firms after registration with National Seeds Corporation;
- c) National Seeds Corporation, State Seeds Corporations;
- d) Food processing industrial units;
- e) Growers of vegetables registered with the Director of Horticulture/Agriculture of the State Government.

48. It may be noted that India imports a significant proportion of its vegetable seeds needs from countries like Italy, Taiwan, Japan, US and France. Major imports include radish followed by cabbage, pea, cauliflower etc. India has imported 1525.38 tons of vegetables seed valuing 1503.1 m INR in the year 2007-08.¹² To further illustrate the importance of the import of vegetable seeds, some states like West Bengal import about 70 % of all vegetable seed demands.¹³

(c) Extent of barriers to entry into the market (Section 20 (4)(b))

49. In its initial stage, the Indian seed industry consisted primarily of two national organizations - the National Seeds Corporation (NSC) and the States Farms Corporation of India Limited (SFCL). Private seed firms slowly emerged throughout the 1960s and the 1970s, with a number of them benefitting from NSC's technical assistance. In recent years, partly as a consequence of the reduction of barriers to the entry for foreign firms and large Indian conglomerates into the seed industry, many joint ventures between foreign and Indian firms have entered the seed market. The emergence of multiple Indian and multinational seeds companies over the past decade demonstrates that the market is easy to enter with insignificant entry costs. Most importantly, the unorganized sector, constitutes a significant portion of the seeds market.

50. Entry into the market is fairly easy and the costs of entry are low. As per the Parties' estimates, an enterprise may enter into the business of producing and selling vegetable seeds with an investment of merely INR 1 crore. Moreover, a number of companies also enter into contract manufacturing agreements

¹²See generally, Vanitha, S.M, Chaurasia, S.N.S, Singh P.M. and Naik, P.S.2013. Vegetable Statistics, Technical Bulletin No. 51, IIVR, Varanasi.

¹³ http://www.business-standard.com/article/markets/india-net-importer-of-veg-seeds-china-emerges-as-newest-exporter-112110100142_1.html

whereby they procure the seed, package and market it under their own brand. Such a business model requires an even lower investment.

(d) Level of combination in the market (Section 20 (4)(c))

51. There are over 400 local companies selling vegetable seeds in India. Existing competitors are also expanding their seeds business by way of acquisitions or partnerships. There are a significant number of large players like Syngenta, East West, Namdhari, JK Seeds which effectively and vigorously compete with the Parties for the sale of various types of seeds.

(e) Degree of countervailing power in the market (Section 20 (4)(d))

52. As there are a large number of varieties available in the market, farmers weigh their options before buying the seeds they need. Farmers take advantage of the immense array of choices not only in terms of source of supply but also on the type of product they wish to use on their land. Awareness levels of farmers have gone up considerably over the past few years given the various initiatives of both the Government and the private sector like setting up of e-Choupals¹⁴ and because of better connectivity via mobile and internet with markets, seeds companies, agri-chemical sellers etc.

(f) Likelihood that the combination would result in the parties to the combination being able to significantly and sustainably increase prices or profit margins (Section 20 (4)(e))

53. The Proposed Combination does not increase the Parties' market shares to an extent that they may be in a position to increase their prices or profit margins in the sale of the overlapping vegetable seeds.

(g) Extent of effective competition likely to sustain in the market (Section 20 (4)(f))

54. It may be noted that the Parties cater to a small portion of the vegetable seeds market. It is imperative to understand that many farmers use self-saved seeds or procure seeds which are locally available in the unorganized sector. The combined shares of supply by the Parties to the Proposed Combination would not be indicative of dominance and generally well below 30 % (with only small increments). There will be equally efficient competitors present in this space who will ensure that Parties are proscribed from levying supra-competitive rates.

¹⁴ e-Choupal is an initiative of ITC Limited, a conglomerate in India, to link directly with rural farmers via the Internet for procurement of agricultural and aquaculture products. e-Choupal tackles the challenges posed by Indian agriculture, characterized by fragmented farms, weak infrastructure and the involvement of intermediaries. The programme installs computers with Internet access in rural areas of India to offer farmers up-to-date marketing and agricultural information.

(h) Extent to which substitutes are available or are likely to be available in the market (Section 20 (4)(g))

55. It is reiterated there are significant competitors present for sale of the vegetable seeds in the market as can be seen from the table above.

56. It is relevant to note that seeds sold by these companies constitute a small fraction of overall seeds in most cases as significant demand (of about 75 %) is met by 'self stored' or locally sourced seeds¹⁵.

(i) Likelihood that the combination would result in the removal of a vigorous and effective competitor or competitors in the market (Section 20 (4)(i))

57. Vegetable seeds offerings of the Parties are largely complementary, given the small increment in share in the overlapping vegetable seeds. The Parties do not have significant overlap and are not in a position to cause the removal of a competitor in the vegetable seed sector.

58. Additionally, the predicted strong market growth will create many business opportunities and incentives for competitors to enter into and expand in the vegetable seeds markets in India. Further, considering the low entry barriers in these markets, market exits as a result of the Proposed Combination are very unlikely.

(j) Nature and extent of vertical integration in the market (Section 20 (4)(j))

59. Like various other companies, Bayer and Monsanto are engaged in breeding programmes for a number of vegetable seeds. However, this does not confer any advantage on the Parties as many players enter into contract manufacturing agreements whereby they procure seeds from breeding companies, package and market it under their own brands. Such a business model requires minimal investments, which as per the Parties estimates may be below INR 1 crore.

(k) Nature and extent of innovation (Section 20 (4)(l))

60. Innovation in the market for sale of seeds plays a role in determining the success of a seed variety. Given the amount of research and development required to develop better varieties of seeds, even a new player with an improved variety of a seed can affect the market to its benefit.

(l) Relative advantage, by way of the contribution to the economic development, by any combination having or likely to have appreciable adverse effect on competition (Section 20 (4)(m))

¹⁵ See generally, Poonia, T. C. 2013, History of Seed Production and its Key Issues. Inter. J. Food, Agri. and Vet. Sci, 3(1), pp.148-154.

61. It may be noted that the Proposed Combination does not raise any competition concerns as evident from the foregoing, however it will significantly contribute to economic development. With the ever increasing population and demand for food, the need and demand for vegetable seeds is very significant. As is widely known, India is a net importer of vegetable seeds. With some states importing as much as 70% of their vegetable seed needs, it is imperative that the Proposed Combination is approved so that the Parties can utilize the opened up synergies for increasing production and widening penetration. Use of better yielding seeds will increase productivity of farm lands, which will increase incomes of farmers, who constitute more than 65 percent of the Indian population, and which will spur economic development in India.
62. Further, the combined R&D and distribution efforts of the Parties post combination will provide a great impetus to bettering the penetration in the market, thereby increasing the agricultural productivity to meet the demand of a country which is food strapped, and requires significantly more food resources to feed its expanding population.
63. Separately, it may be noted that the Bayer is present in market for commercialization of Ridge Gourd seeds and Radish seeds as well. In case of Ridge Gourd seeds, Bayer has a market share of 5-10%, whereas Monsanto is not present in the Indian market. Other competitors present in the market for commercialization of Ridge Gourd seeds in India include East West (25-30%), Mahyco (20-25%), Namdhari (0-5%) and Syngenta (0-5%). Similarly, in case of market for commercialization of Radish seeds, only Bayer has presence in India with a market share of 0-5%, whereas Monsanto does not have any presence in the market. Other competitors in the market for sale of Radish seeds in India include Syngenta (20-25%) and Mahyco (0-5%).

IX. SEEDS TREATMENT PRODUCTS

64. Bayer is present in the market for insecticidal and fungicidal seed treatment products in India. It may be noted that Monsanto is not present in the production and sale of seed treatment products in India and thus, there are no horizontal overlaps between the Parties in this market. Therefore, the position of the Parties would not undergo a change pre and post combination and neither would the market dynamics undergo any change.
65. It may be noted that seed treatment accounts for about 1.5 percent of Bayer's crop protection product segment and the usage of seed treatment products is low as the seed replacement ratio in India is low.
66. Finally, it may also be noted that the subsistence of high market shares cannot confer dominance on an entity due to ease of entry in the seeds treatment

segment. Seed treatment entails purchasing a chemical formulation and coating seeds with that formulation. There are no barriers to obtaining either the seeds or the formulation, and that coating process is simple, not involving any sophisticated machinery or intellectual property. It is also important to highlight that seed treatment products have various substitutes and a farmer who sows un-treated seeds can use other crop protection products as and when required. Therefore, there is no separate market for commercialization of treated seeds. However, details with respect to a few seed treatment products of Bayer are provided in further detail below:

Seeds treatment insecticides for rice/paddy seeds in India

Upstream market for Seeds treatment insecticides for rice			Downstream market for sale of rice seeds		
(2015) (in %) (in ranges)					
Bayer	Monsanto	Others	Bayer	Monsanto	Others
60-65	0	Rallis (0-5), UPL (10-15), Dhanuka (5-10)	40-45	0	Dupont (15-20), Metahelix

67. It is reiterated that Monsanto is not present either in the market for production of seeds treatment insecticides for rice seeds in India or in the market for sale of rice seeds in India.

68. The Proposed Combination would not incentive leveraging by Bayer and foreclosure in terms of restricting sale of its seed treatment insecticides for rice to other players in the market, more so, when it has not adopted such a strategy in the past. It is important to note that Bayer’s 2015 market share of 60-65 percent is considerably dropping over the years and players like UPL (10- 15 percent), Dhanuka (5-10 percent) and Syngenta (0-5 percent) are rapidly gaining market shares.

69. Further, it is important to note that seed treatment products, if applied, are also used for open pollinated seeds and not just hybrid seeds. Still further, pursuing a foreclosure strategy would not be viable as the pre and post combination market shares remain constant. The Proposed Combination does not change Bayer’s existing market position with regard to seed treatment or rice/paddy seeds in India. Additionally, in the downstream market even though Bayer has a market share of 40-45 % other players like DowDuPont with a market share of 15-20 %

and Metahelix with a market share of 5-10% exert considerable competitive constraints. Mahyco has a miniscule market share in the range of 0-5 %.

Seeds treatment insecticides for cotton seeds in India

Upstream market for Seeds treatment insecticides for cotton			Downstream market for sale of cotton seeds		
(2015) (in %) (in ranges)					
Bayer	Monsanto	Others	Bayer	Monsanto	Others
60-65	0	Syngenta (15-20), UPL (0-5), Gujarat Super (5-10).	0-5	No longer active*	Mahyco (0-5), Nuziveedu (15-20), Kaveri (10-15), Ajeet (10-15).

*Monsanto is in the process of selling off its branded cotton seeds business in India to Tierra Agrotech

70. Bayer has a market share of 60-65 % in seeds treatment insecticides for cotton seeds. Other competitors include Syngenta with a market share of 15-20 %, UPL and Gujarat Super Phosphate with a market share of 0-5% each and Rallis has a market share of 5-10 %.

71. Further, unrelated to the Proposed Combination, Monsanto has executed an agreement dated 31 August 2017 for selling its branded cotton business to Tierra Agrotech Private Ltd. and therefore, even the insignificant overlap in the downstream market for commercialization of cotton seeds in India does not remain anymore. Accordingly, the Proposed Combination does not change Bayer’s lack of ability or incentive to leverage its position in the upstream market to foreclose the downstream market.

72. It may be reiterated that a subsistence of high market shares cannot confer dominance on an entity due to ease of entry in the seeds treatment segment. There are no barriers to obtaining either the seeds or the formulation, and that coating process is simple, not involving any sophisticated machinery or intellectual property. It is also important to highlight that seed treatment products have various substitutes and a farmer who sows un-treated seeds can use other crop protection products as and when required.

Seeds treatment insecticides for corn seeds in India

Upstream market for Seeds treatment insecticides for corn			Downstream market for sale of corn seeds		
(2015) (in %) (in ranges)					
Bayer	Monsanto	Others	Bayer	Monsanto	Others
55-60	0	Various	0	15-20	DowDuPont (20-25), Syngenta (10-15), Kaveri (5-10), Nuziveedu (0-5) and Mahyco (0-5)

73. It is reiterated that Monsanto is not present in the market for production of seeds treatment insecticides for corn seeds in India while Bayer is not present in downstream market of commercialization of rice seeds in India. Bayer’s market share in the upstream market for sale of insecticidal seed treatment products for corn is in the range of 55-60 percent.

74. The Proposed Combination would not incentivise leveraging by Bayer and foreclosure in terms of restricting sale of its seed treatment insecticides for corn to other players in the market, more so, when it has not adopted such a strategy in the past.

75. Further, it is important to note that seed treatment products, if applied, are also used for open pollinated seeds and not just hybrid seeds. Still further, pursuing a foreclosure strategy would not be viable as the pre and post combination market shares remain constant. The Proposed Combination does not change Bayer’s existing market position with regard to seed treatment products for corn seeds in India. Additionally, in the downstream market even though Monsanto has a market share of 15-20 % other players like DowDuPont with a market share of 20-25 % and Syngenta with a market share of 10-15% exert considerable competitive constraints. Mahyco has a miniscule market share in the range of 0-5%.

X. GLOBAL NATURE OF R&D OPERATIONS OF THE PARTIES

76. Parties overlap in R&D and have a global presence, as do their top competitors. Bayer has entered into a definitive agreement with BASF on 13 October 2017 to, *inter-alia*, divest its entire under development GM traits portfolio worldwide including its GM trait research operations and facilities. Bayer is also divesting to BASF its glufosinate ammonium business including related R&D and virtually all of its agricultural seeds business including all related R&D. Bayer is therefore of the view that the Proposed Combination will not give rise to any AAEC in this relevant market.

XI. PORTFOLIO EFFECTS

77. It is important to highlight that the Proposed Combination brings together largely complementary portfolios of two companies. An enhanced portfolio is widely regarded as being welfare neutral to welfare enhancing. This accepted in developed competition law jurisdictions. Further, the pro-competitive effects of an enhanced portfolio is also well established. Most importantly, technical and commercial bundling of GM seeds with certain crop protection products is neither possible nor probable. Therefore, the Proposed Combination does not alter the existing competitive landscape in India to sustain any potential harm from portfolio effects.

XII. EXPECTED TIMEFRAME FOR COMPLETION OF VARIOUS STAGES OF THE COMBINATION

78. Bayer expects the Proposed Combination will close by early 2018.

79. **In order to determine whether the combination has or is likely to have an appreciable adverse effect on competition in the relevant market in India, the Commission invites comments/ objections/ suggestions in writing, from any person(s) adversely affected or likely to be affected by the combination, to submit, in writing, as provided under sub-section (3) of section 29 of the Act, to be addressed to the Secretary, Competition Commission of India, the Hindustan Times House, 7th Floor, 18-20, Kasturba Gandhi Marg, New Delhi-110001, within fifteen working days from the date of this publication.**

80. **The comments/ objections/ suggestions shall state:**

(a) Name, address and contact details of the person(s) writing to the Commission, and

(b) With supporting documents, how such a person(s) is adversely affected or is likely to be affected by the combination, keeping in view the relevant provisions of the Act/ factors provided under sub-section (4) of Section 20 of the Act.

(c) The Commission is not likely to consider unsubstantiated objections.
