COMPETITION COMMISSION OF INDIA

(Combination Registration No. C-2017/08/523)

Dated: 14.06.2018

Notice under sub-section (2) of Section 6 of Competition Act, 2002 given by Bayer AG

CORAM:

Mr. Devender Kumar Sikri
Chairperson

Mr. Sudhir Mital
Member

Mr. Augustine Peter
Member

Mr. U. C. Nahta
Member

Mr. G. P. Mittal
Member

Legal Representatives of Bayer AG: Luthra & Luthra Law Offices

<u>Order under Section 31(7) of the Competition Act, 2002</u>

INTRODUCTION

1. On 07.08.2017, the Competition Commission of India (hereinafter referred to as the **"Commission"**) received a notice under sub-section (2) of Section 6 of the Competition Act, 2002 ("**Act**") given by Bayer Aktiengesellschaft ("**Bayer**" / "**Acquirer**"). The notice

was filed pursuant to execution of the Agreement and Plan of Merger entered into and between Bayer, Monsanto Company ("**Monsanto**") and KWA Investment Co ("**Merger Sub**"), a wholly owned subsidiary of Bayer, on 14.09.2016 ("**Combination Agreement**") (hereinafter, Bayer and Monsanto are collectively referred to as the "**Parties**").

2. The Commission noted that earlier, on 14.10.2016, Bayer filed notice in Form II under sub-section (2) of Section 6 of the Act, in relation to its acquisition of Monsanto. In its meeting held on 01.03.2017, the Commission observed that the notice filed on 14.10.2016 and subsequent submissions by the Acquirer did not contain requisite information for carrying out competition assessment of the proposed combination. Accordingly, the notice was held to be not valid under sub-regulation 2A of Regulation 14 of the Competition Commission of India (Procedure in regard to the transaction of business relating to combinations) Regulations, 2011 ("**Combination Regulations**") and Bayer was directed to file a fresh notice, in Form-II, at the earliest. In compliance with the direction of the Commission, Bayer filed the present notice on 07.08.2017.

3. In terms of Regulation 14 and sub-regulation (2) of Regulation 19 of the Combination Regulations, *vide* email dated 19.08.2017 and letters dated 01.09.2017 and 19.09.2017, Bayer was required to provide certain information/document(s). The response of Bayer, in this regard, was received on 03.10.2017, after seeking extension of time. As complete information was not furnished in the said response, Bayer was required to provide complete information, *vide* email dated 08.10.2017. These gaps were also communicated to Bayer in the meeting held on 03.10.2017. Bayer submitted its response on 12.10.2017. Further, *vide* communication dated 26.10.2017 issued under sub-regulation (3) of Regulation 14 of the Combination Regulations, certain clarifications *w.r.t.* the above said submissions were sought from Bayer. Bayer submitted complete response on 01.11.2017. In terms of sub-section 12 of Section 31 of the Act read with sub-regulation (5) of Regulation 14 and sub-regulation (2) of Regulation 19 of the Combination Regulations, time taken by Bayer in providing the required information including document(s) was

excluded from the period provided in sub-section (11) of Section 31 of the Act and sub-regulation (1) of Regulation 19 of the Combination Regulations.

4. Further, in terms of sub-regulation (3) of Regulation 19 of the Combination Regulations read with sub-section (4) of Section 36 of the Act, the Commission also sought information *inter alia* from competitors of the Parties, certain public & private research institutions and few institutional investors. The Commission considered responses received from these entities while forming its opinion in the present matter.

5. The Commission also considered the inputs given by experts engaged in relation to the assessment of the Proposed Combination in terms of relevant provisions of the Act read with the Combination Regulations. Further, considering the worldwide scope of the Proposed Combination, the Commission also cooperated with other jurisdictions.

PARTIES TO THE COMBINATION

6. Bayer, a German stock corporation, is a life sciences company with core competencies in the areas of health care and agriculture. As per the information given, activities of Bayer are carried out in three divisions *i.e.* pharmaceuticals; consumer health; and crop sciences. Bayer is also active globally in developing digital farming technologies. Further, Bayer has an animal health business unit, and 44.8 per cent shareholding in Covestro AG, which is engaged in the material science business.

7. In India, Bayer operates its crop science business through its subsidiaries *i.e.* Bayer CropScience Limited, Bayer Seeds Private Limited, Bayer BioScience Private Limited and Bayer Vapi Limited. The other businesses are operated through Bayer Pharmaceuticals Private Limited, Bayer Zydus Pharma Private Limited (a 50:50 joint venture between Bayer Healthcare and Zydus Cadila) and Covestro (India) Private Limited. In India, the crop science division focuses on: (a) high-value seeds; (b) innovative chemical and biological pest management solutions; and (c) customer service for modern and sustainable agriculture. The crop protection business in India markets a

broad range of herbicides, insecticides, fungicides seed dressings and plant growth regulators.

8. Monsanto, incorporated in the United States of America, is an agricultural company, which provides seeds, biotechnology traits and crop protection, globally. In addition, Monsanto is active in providing digital farming solutions, globally. Monsanto is present in India through its subsidiaries *viz*; Monsanto India Limited, Monsanto Holdings Private Limited, Monsanto Investments India Private Limited and Mahyco Monsanto Biotech (India) Private Limited. In India, Monsanto provides: (a) high-yielding conventional and biotech agricultural and vegetable seeds; (b) weed control solutions; and (c) advanced traits and technologies.

9. In relation to Monsanto, it has been submitted that Monsanto Investment India Private Limited ("**MIIPL**"), a wholly owned subsidiary of Monsanto, has 26 per cent equity shareholding in Maharashtra Hybrid Seed Company Limited ("**Mahyco**"), which is also active in the seed sector in India. However, despite the said shareholding, the Acquirer has submitted that Monsanto does not exercise any form of control over Mahyco and therefore, it should not be considered as part of Monsanto. In this regard, it is noted from the submissions, that MIIPL not only has 26 percent shareholding in Mahyco which accords MIIPL the power to block any special resolution, but it also has a right to nominate four members on the Board of Mahyco as long as it holds not less than twenty percent equity shares of Mahyco. Presently, MIIPL has three Directors on the Board of Mahyco. Considering the shareholding and rights available to Monsanto in relation to appointment of the Board members and key management personnel and in respect of certain strategic matters, the Commission is of the view that Monsanto has joint control over Mahyco along with other shareholders.

10. It is also noted that MIIPL and Mahyco have a 50:50 joint venture *i.e.* Mahyco Monsanto Biotech (India) Private Limited ("**MMBL**") to make available cotton trait technologies to Indian seed companies through licensing arrangements.

PROPOSED COMBINATION

11. The notice has been filed in relation to acquisition of the entire shareholding of Monsanto by Bayer. The said acquisition is structured as a reverse triangular merger by way of which the Merger Sub will merge with and into Monsanto with Monsanto as the surviving entity. After the said merger, Monsanto will become a wholly owned subsidiary of Bayer (hereinafter, the acquisition of Monsanto by Bayer is referred to as the "**Proposed Combination**").

12. In terms of the SEBI (Substantial Acquisition of Shares and Takeover) Regulations, 2011, Bayer has made a Public Announcement on 19.09.2016 to purchase up to 26 percent of the fully diluted voting equity share capital of the Monsanto India Limited.

INVESTIGATION UNDER SECTION 29 OF THE ACT

13. The Commission, in its meeting held on 03.11.2017, considered facts on record (including third party responses, inputs provided by experts), details provided in the notice, and responses filed by Bayer and formed a *prima facie* opinion that the Proposed Combination is likely to cause an appreciable adverse effect on competition ("**AAEC**") in several relevant markets in India. Accordingly, in terms of sub-section (1) of Section 29 of the Act, a show-cause notice dated 08.11.2017 ("**SCN**") was issued to Bayer wherein Bayer was directed to respond, in writing, within thirty days of the receipt of the SCN, as to why investigation in respect of the Proposed Combination should not be conducted.

14. Bayer, *vide* letter dated 06.12.2017, sought an extension of two weeks (*i.e.* till 21.12.2017) to file response to the SCN. The Commission, in its meeting held on 11.12.2017, considered the extension request of Bayer and granted an extension of 10 days for filing response to the SCN. The Commission also noted that in terms of the undertaking provided by Bayer, this extension of time being taken by Bayer to submit its response to SCN shall be excluded from the overall time period of 210 days as provided

under the Act. Accordingly, the response to SCN was filed by Bayer on 18.12.2017 (“**Response to SCN**”).

15. The Commission, in its meeting held on 22.12.2017, considered and assessed the Response to SCN and noted that submissions of Bayer, contesting the AAEC concerns expressed by the Commission in SCN, do not allay the said concerns. It was also submitted in the Response to SCN that Bayer is proposing certain divestments, which would eliminate all primary concerns raised by the Commission. In this regard, the Commission noted that the said divestments, mentioned in the Response to SCN, have been offered by Bayer in other jurisdictions and the same are yet to be accepted by said authorities. Moreover, the proposed divestment of vegetable seeds business by Bayer was yet to be formally submitted to any authority. Accordingly, implementation of said divestments is conditional upon acceptance by these authorities resulting into considerable uncertainty *w.r.t.* the scope and implementation of divestments mentioned in the Response to SCN. Moreover, said divestments do not address all AAEC concerns raised by the Commission in the SCN. Accordingly, the Commission was of the view that the competition concerns, as raised in SCN, continue to exist.

16. In view of the above, in accordance with sub-section (2) of Section 29 of the Act read with Regulation 22 of the Combination Regulations, the Commission decided to issue a direction to Bayer to publish details of the Proposed Combination within ten working days of the said direction for bringing the Proposed Combination to the knowledge or information of the public and persons affected or likely to be affected by such Proposed Combination. The said direction was communicated to Bayer *vide* letter dated 22.12.2017.

17. Accordingly, details of the Proposed Combination were published by Bayer in four newspapers and on the respective websites of the Parties on 05.01.2018 in Form IV, as contained in Schedule II to the Combination Regulations. The said details were also hosted on the website of the Commission. *Vide* such publication, the Commission invited comments / objections / suggestions in writing, in terms of the provisions of sub-section

(3) of Section 29 of the Act, from person(s) adversely affected or likely to be affected by the Proposed Combination, within fifteen working days from the date of publication, *i.e.*, by 25.01.2018.

18. Pursuant to the said publication, the Commission received comments from various stakeholders. The Commission considered the comments of the public/various stakeholders and noted that the same corroborate the competition assessment of the Commission. Therefore, the Commission decided to proceed with the case in accordance with the provisions contained in Section 31 of the Act.

COMPETITION ASSESSMENT

19. Based on the material available on record, the Commission assessed the Proposed Combination for any likely AAEC in India. The Commission observed that both Parties are vertically integrated agricultural companies and are present in the entire value chain of supply of agricultural inputs like crop protection, seeds and traits, digital farming solutions. The Proposed Combination would create one of the largest vertically integrated player in the agricultural market globally. The Commission assessed horizontal and vertical overlaps resulting from the Proposed Combination and the resultant possible conglomerate effects due to complementary product portfolios of the Parties.

20. The competition assessment of the Proposed Combination is discussed in following paragraphs.

I. Crop Protection Products

21. The Commission observed that crop protection products are used in agriculture to enhance crop yield and quality by protecting the crops against damages caused by weeds, insects or fungi. Depending on the type of organism being targeted, crop protection products can be categorised into herbicides, insecticides and fungicides. Further, some other crop protection products increase crop yield by helping crops tolerate stress

conditions, such as fertilisers and plant growth regulators. It is also noted from the submissions given in the notice that globally the Parties offer biological crop protection products. As per Bayer, these biologics are crop protection products which contain active ingredients derived from natural sources, such as plants, bacteria and fungi.

22. It is noted from the information given in the notice that in India, Bayer is present in all segments of crop protection products *i.e.* herbicides (both selective and non-selective), insecticides, fungicides, seed dressing and plant growth regulators. However, Monsanto is present in India only in non-selective herbicide segment. Thus, there is no overlap between the Parties in relation to selective herbicides, insecticides, fungicides, seed dressing and plant growth regulators. Competition assessment of vertical linkages between seed treatment products of Bayer and the seeds being sold by the Parties, are discussed separately.

23. In relation to Parties' operations in India related to biologics, it is noted from the information given in the notice that Bayer has not made any sales of biologics in India and it does not have any plans of entering the biological crop protection sub-segment in India also. As far as presence of Monsanto is concerned, it has been submitted that though Monsanto sells bio-fertilisers and bio-stimulants in India, its presence in the market for bio-fertilizers and bio-stimulants is limited, as evidenced by its market share data. Thus, there is no overlap between the Parties in respect of biological pesticides or bio-stimulants in India.

24. Therefore, amongst crop protection products, products of Parties overlap in the sale of non-selective herbicides only. In India, Monsanto sells its non-selective herbicide *i.e.* Glyphosate formulations under the brand name '*Roundup'* whereas Bayer sells its non-selective herbicide *i.e.* Glufosinate Ammonium formulations under the brand name '*Basta'*.

Relevant Market

25. The Commission is of the view that insecticides, fungicides, herbicides, *etc*. have specific uses and cannot be substituted with each other by the farmer and accordingly, they constitute different products markets. Further, herbicides can be classified as selective herbicides and non-selective herbicides. While, selective herbicides are designed to kill only the weeds and leave intact the crop to which they are applied, non-selective herbicides have broad spectrum applications and kill not only the weed but also the crop. Non-selective herbicides are generally applied to open fields in order to clear them of weeds after the harvest of one crop and prior to the sowing of the next. Therefore, given the basic difference between selective and non-selective herbicides, the Commission is of the view that relevant product market for selective herbicides may be considered to be distinct from the relevant product market for non-selective herbicides.

26. As per the submissions of the Acquirer, presently, non-selective herbicides sold in India are based on three active ingredients ("**AI**") *i.e.* glyphosate, glufosinate ammonium and paraquate. Monsanto is the originator of glyphosate AI whereas Bayer is the originator of glufosinate ammonium AI. All the three AIs are off patent and there are various generic manufacturers supplying formulations based on glyphosate and paraquate. However, formulations based on glufosinate ammonium are sold only by Bayer.

27. The Commission has also considered the submissions of the Acquirer that both these products are not substitutes. In this regard, it is noted from the information available on the website of Bayer that Bayer markets its product (*i.e.* Glufosinate Ammonium based formulations) in direct competition to Monsanto's product (*i.e.* Glyphosate based formulations)[1]. Market investigation of the Commission also partly indicate that the products of the Parties are largely substitutable. Accordingly, the Commission is of the view that although glufosinate ammonium has not been as successful as glyphosate

[1]https://www.cropscience.bayer.us/products/traits/libertylink/libertylink-system#phcontent_4_divAccordion last accessed on 15.10.2017

globally, both the AIs are close competitors to each other. Therefore, no further distinction is required to be made between different non-selective herbicides.

28. In view of the foregoing, all non-selective herbicides constitute part of one relevant product market. Further, based on the insignificant transportation cost, pan-India licences & approvals, *etc*. the relevant geographic market is the territory of India. Accordingly, for the present assessment, the Commission is of view that the relevant market is the **market for non-selective herbicides in India**.

Competition Assessment

29. The Commission notes that a number of players are active in the sale of crop protection products in India. Based on their size, business model and capabilities, there are two types of players in the market for crop protection products *i.e.* 'Integrated R&D players' and 'other players' (which mainly include players selling generic products). Integrated R&D players have the ability to undertake research, discovery, development and registration of new AIs, as well as have access to pan-India distribution network. Therefore, the Integrated R&D players have presence across the value chain in the crop protection segment. As per the information available with the Commission, there are very few Integrated R&D players for *e.g.* Bayer, DowDuPont, BASF, Syngenta and Monsanto who have the ability to research, develop and market new molecules and products in the crop protection segment. On the other hand, other players undertake no research into the discovery of new AIs and are primarily focused on formulations based on off-patent AIs. They are dependent on access to off-patent AIs for their business operations.

30. The said distinction between the capabilities of integrated R&D players and those of other players has important implications for competition in the crop protection industry, as the latter will not be in a position to exercise effective competitive constraints against Integrated R&D players. The Commission also notes that the market share data submitted by the Acquirer includes non-integrated players also and accordingly, the said market share data may understate the market power of the Parties. On account of this, lack of

sufficient competitive constraints from the non-integrated players have been factored accordingly.

31. It is noted from the market share data provided in the notice that Monsanto is the largest player in the relevant market with a market share of [20-25] per cent in 2013, [25-30] per cent in 2014 and [25-30] per cent in 2015. Bayer commenced sales of its non-selective herbicide (*i.e.* glufosinate ammonium) in 2014 only and has a market share of less than [0-5] per cent in 2015. Further, top three players namely, Monsanto, Excel and Syngenta account for more than 50 per cent of the market and all other players have very limited presence in the market, with market share less than 5 per cent.

32. It is also noted that though glyphosate is now a generic product; Monsanto has created a niche for its product and commands a premium over generic players of glyphosate due to brand awareness and brand equity of Roundup (Monsanto's product), distributor reach and customer and technical service rendered by the field team. The Commission is of the view that Monsanto is still the leading company in the glyphosate-based formulations and that generic players have not been able to significantly compete with Monsanto in this segment.

33. It is noted that sales of glyphosate constitute around [65-70] per cent of total non-selective herbicide sales in India. Bayer produces and sells glufosinate ammonium, which is one of the few alternative products of glyphosate.

34. In the non-selective herbicides market, both Parties have ongoing R&D activities as well as pipeline products for developing either new AIs or new formulations of their existing non-selective herbicide AIs in mixtures. As per the available information, […] As per the information available in the public domain, Indaziflam is a pre-emergent herbicide effective against weeds at a different stage in their life-cycle and is likely not directly substitutable with glyphosate on its own. However, as Bayer is planning […], the combined product would be substitutable to an extent.

35. Further, apart from the Parties, only Syngenta is an integrated R&D player present in the non-selective herbicide market. Therefore, it appears that there are limited number of competitors in this market that are capable of investing in R&D and consequently, discovering new active ingredients and developing new formulations. The Proposed Combination is likely to eliminate an important competitive constraint in the relevant market which is likely to result in harm to future innovation efforts in non-selective herbicide segment.

36. It is also noted that there are substantial entry barriers in the crop protection segment in the form of upfront R&D costs, regulatory knowhow, national distribution network, intellectual property rights and patents, *etc*. Both Parties are Integrated R&D players with significant capabilities and therefore, entry of a new player so as to be an effective long term competitor of the Parties would be difficult.

37. In view of the foregoing, the Commission is of the view that Bayer is the one of the few significant alternative to Monsanto in the non-selective herbicides market and the Proposed Combination would eliminate an important competitive constraint from the relevant market. Accordingly, the Commission is of the view that the Proposed Combination is likely to result in AAEC in the relevant market for non-selective herbicides in India.

II. Seeds & Traits

II.A Herbicide Tolerant Trait/Technology

38. As already stated, non-selective herbicides do not distinguish between crop and weed and kill both. Herbicide tolerant traits confer tolerance / resistance to crops / seeds to withstand specific non-selective herbicides. The advantage of such traits is that the crop can be sprayed with the non-selective herbicide which kills the surrounding weeds without harming the crop. Such traits allow the crop plant to survive the application of

non-selective herbicide. Thus, a farmer may be able to use herbicides more effectively by using herbicide tolerant traited seeds.

39. It has been submitted that Bayer has developed Liberty Link technology which confers resistance to a plant against herbicides based on the active ingredient glufosinate ammonium. Globally, Liberty Link technology is available for soybean, cotton, corn, canola, and Bayer sells Liberty Link traited seed for soybean, cotton, and canola (but not for corn) and licenses out the technology for use in third-party seed for these crops (including corn).

40. It is also noted from the information available in the public domain that globally, Bayer offers herbicide tolerant trait not only for glufosinate ammonium (*i.e.* Liberty Link) but also for glyphosate (*i.e.* Glytol). As per information available on the website of Bayer, Glytol trait technology delivers season-long, in-plant tolerance to glyphosate herbicide giving growers a wide window for post emergence applications. Glytol is available in high-yielding, premium quality FiberMax and Stoneville varieties for cotton.

41. Similarly, Monsanto has developed the Roundup Ready technology which confers resistance upon a plant against non-selective herbicides based on the active ingredient glyphosate. Globally, Roundup Ready technology is available for crops namely, soybean, cotton, corn, canola, sugarbeets and alfalfa. Monsanto sells Roundup Ready traited seeds for these crops and licenses out the technology for use in third-party seed for these crops.

42. The Commission notes that the currently marketed herbicide tolerant traits are genetically modified (GM) wherein a foreign gene is inserted to achieve desired results. However, as per the New Breeding Techniques (NBTs), a plant genome can be modified without inserting non-native DNA, by prompting genetic mutations using chemical/radiological elements, which are considered as non-genetically modified (‘non-GM’). As per the information available, the Parties are in the process of […].

43. It has also been submitted that neither Monsanto's Roundup Ready traits nor Bayer's Liberty Link & Glytol traits are available or sold in India and that crops containing these traits are not cultivated or sold in India.

Relevant Market

44. Provision of herbicide tolerant technology is separate from the supply of non-selective herbicides. The Commission is of the view that relevant product market is licensing of herbicide tolerant trait for seeds. In relation to relevant geographic market, the Commission is of the view that conditions for competition for provision of this technology are homogenous across India and therefore, relevant geographic market is entire territory of India. In view of above, relevant market is **licensing of herbicide tolerant trait for seeds in India**.

Competition Assessment

45. The Acquirer has submitted that presently Monsanto's Roundup Ready traits or Bayer's Liberty Link & Glytol traits are not available or sold in India. However, it is noted from the details of the current status of testing related to all GM seeds in India that both Bayer and Monsanto are in the process of seeking regulatory approvals for herbicide tolerant traits for cotton seeds.

46. During market investigation, one of the respondents has submitted that it has a joint venture with Monsanto Holding Private Limited ("**MHPL**"), a wholly owned subsidiary of Monsanto, for research, development and commercialization of RoundUp Ready Soybean seed and RoundUp Ready Cotton seed in India, thus indicating that Monsanto has detailed plans for introducing its herbicide tolerant traits in India. Another respondent has submitted that it has entered into agreement with Monsanto to get license for BG II + RRF [Roundup Ready Flex] Technology, but due to absence of clearance from the regulatory bodies in India, commercialisation has not commenced.

47. […]

48. Apart from commercial licensing of herbicide tolerant trait for different seeds, the said technology can also be used in-house by the Parties for developing hybrid seeds containing herbicide tolerant traits. As already stated, globally, Parties sell herbicide tolerant seeds for different crops.

49. Accordingly, it is noted that as on date, Parties do not market their respective herbicide tolerant technology in India, due to non-receipt of regulatory approvals. However, as and when, the regulatory authorities grant approval for introduction of herbicide tolerant technology in India, the Parties would be direct competitors. In the absence of the Proposed Combination, both Bayer and Monsanto would have incentive to introduce their respective technologies in India. However, the Proposed Combination is likely to reduce the incentive of the Combined Entity to introduce competing traits/technologies in India, thereby completely eliminating the competition between the two.

50. It is noted that both Bayer and Monsanto are leading innovators in developing non-selective herbicides (including mixtures) as well as corresponding herbicide tolerant traits and trait stacks. The Commission is of the view that R&D in traits is characterised by high barriers to entry. Limited number of Integrated R&D players have the capability and resources to compete in trait innovation. As per the information available, only Bayer and Monsanto have proprietary herbicide tolerant traits and the Acquirer has not provided any data to suggest that any other competitor has a proprietary herbicide tolerant trait. Trait innovation is time and cost intensive. When coupled with regulatory uncertainty in relation to approvals, it deters other players from entering the market.

51. In view of the foregoing, the Commission is of the view that Bayer is a significant competitor to Monsanto in the herbicide tolerant traits market. The Proposed Combination will result in elimination of threat to Monsanto from Bayer's innovation activities and accordingly, Monsanto would have less incentive to innovate in order to protect its current business.

52. Accordingly, the Commission is of the view that the Proposed Combination is likely to result in AAEC in the relevant market for licensing of herbicide tolerant trait for seeds in India.

II.B Agricultural / Broad Acre Seeds & Traits

53. Agricultural crops, also known as broad acre crops, require use of large parcels of land for farming and include cotton, mustard, millet, corn (maize), soyabean, wheat, rice, canola, sorghum, *etc*. Both Bayer and Monsanto are active in the development & breeding of seed varieties as well as in production and sale of various agricultural seeds, globally and in India. It is noted that, in India, Monsanto is present in licensing of parental lines / hybrids for cotton and corn whereas Bayer is present in licensing of parental lines or hybrids for mustard, millet and rice. Further, Bayer is also present in commercialisation of rice, mustard, cotton and millet seeds whereas Monsanto, either directly or through Mahyco, is active in commercialisation of rice, cotton, millet and corn seeds.

54. It is noted that the seed industry can be described as a two-stage industry encompassing *first*, the development of new variety for each crop *via* breeding (development of parental lines which are crossed to create hybrids) – '*Upstream*' and *second*, the commercial production and commercialisation of those hybrids (also called multiplication) – '*Downstream*'. Globally, seed companies exchange/license parental lines (including traits) with each other to diversify their respective germplasm portfolios by crossing with their own parental lines.

Relevant Market

55. It is noted that licensing of parental lines, hybrids and / or traits (both GM and non-GM) is different from commercialisation of hybrid seeds. Therefore, these activities may not be regarded as substitutable. Further, players on the demand side are different in respect

of upstream and downstream markets. In the case of the licensing of parental lines/hybrids/traits, demand side consists of seed companies, whereas, in the case of commercial production of hybrid seeds, demand side consists of distributors and farmers. Moreover, there are several entities that are exclusively or predominantly active in the upstream activities of licensing of parental lines/hybrids/traits *e.g.* most of the research institutes like Indian Council of Agricultural Research and State Agricultural Universities are active in out-licensing of parental lines and hybrids without being active in commercial production of seeds. In the market investigation, few respondents have stated that the licensing of parental lines/hybrids/traits is a crucial activity for seed companies in order to diversify their germplasm and to be competitive in some markets. Accordingly, the Commission is of the view that licensing of parental lines/hybrids/traits is a distinct relevant product market from that of commercialisation of hybrid seeds.

56. In relation to delineation of the relevant product market, it is further noted that commercialisation of one particular crop constitutes a separate product market distinct from the commercialisation of other crops. Again, various kinds of seeds are not mutually substitutable since customers / farmers are likely to grow different crops depending upon market conditions and agro-climatic factors. Therefore, each crop seed constitutes a different relevant product market.

57. In this regard, it is also noted that hybrid seeds as compared to open pollinated varieties (OPVs), are developed from controlled pollination which ensures that all seeds of a crop descend from parents with known traits and are therefore more likely to have the desired plant characteristics such as higher yield performance and better disease resistance. Another important feature of hybrid seed is that they are not self-sustaining (as against the OPV seeds); therefore, farmers need to purchase new hybrid seed varieties for planting every year.

58. Open pollinated seeds are generally less expensive as compared to hybrid seeds. It is also noted from the submission of the Parties that all agricultural seeds produced by Parties

are hybrid seeds. Therefore, the Commission is of the view that the hybrid seeds constitute a different product market as against OPVs.

59. Different hybrids of a seed share the same intended end use. While purchasing seeds, farmers try to choose among the hybrids, which are best adapted to the local agro-climatic conditions. All the major seed companies offer a wide portfolio of hybrids covering most of the segments. Therefore, for the purpose of the present matter, all the hybrids of a particular crop are considered to constitute one single relevant product market.

60. Based on the insignificant transportation cost, pan-India presence of major seed companies through their distributor network, single breeding programme of the Parties per crop *etc.*, the relevant geographic market is the territory of India.

61. In view of the foregoing, the Commission is of the view that the relevant product market may be delineated as follows:

   a. Upstream market for licensing of parental lines or hybrids or traits for a specific agricultural crop seed in India; and

   b. Downstream market for commercialisation of a specific agricultural crop hybrid seed in India.

Competition Assessment

62. A player with sufficiently diverse portfolio of genetic material is considered to be competent in the market for launching new and improved hybrids. The licencing of parental lines or hybrids serve the purpose of diversifying the genetic material of seed companies with respect to some traits/characteristics of certain seeds in other geographies. It is noted from the Acquirer's submission relating to different business models followed by seed companies in India, that a distinction can be made between two

types of seed companies based on different capabilities in the value chain for seeds and on their active presence at different stages of the value chain. These are:

a. *Primary Seed Companies* (following Model 3 as submitted by the Acquirer), which are present in the entire value chain in the seed market *i.e.* from research & development of new traits to actual production and marketing of seeds to farmers through their distribution network. These companies also have significant breeding capability and pan-India distribution network.

b. *Secondary Seed Companies* (following Model 1 and 2 as submitted by the Acquirer), which are present in production and/or marketing of seeds only. They primarily rely on crop varieties developed either by public institutes or primary seed companies through in-house multiplication or sell seeds that are produced, multiplied and packed by other seed companies. They have either no breeding programmes or small breeding programs and lack pan-India distribution network.

63. It was also noted that the Acquirer has assigned significant market share to "other" players and based on the information provided by the Acquirer in this regard, almost all the competitors falling in the "Other" category follow either Model 1 or 2 and therefore, fall in the secondary seed companies' category.

64. The distinction between the capabilities of primary and secondary seed companies, which is applicable to both agricultural as well as vegetable seeds, is important for competition assessment in the seed industry. Unlike primary seed companies, the secondary seed companies do not have sufficiently developed breeding capability so as to develop new varieties of crops. Further, many of the secondary seed companies (specifically following Model 1) do not have production capability also and are dependent on the integrated seed companies for bulk sales. Thus, these secondary seed companies are mostly dependent on the primary seed companies or public institutes for their business, either in terms of production capability or for supply of varieties developed by other entities.

65. Considering varied agro-climatic conditions across India, seed companies require a wide distribution network across India for a diverse portfolio of seeds. Dispersed and fragmented farmer base across the country necessitates having a wide distribution network to reach out to end customers and establish strong customer relationships. Primary seed companies have much better access to distribution network as compared to secondary seed companies. Accordingly, the secondary seed companies may not be in a position to exercise sufficient and effective competitive constraints against primary seed companies, specifically, the Combined Entity. The Commission also notes that the market share data submitted by the Acquirer includes secondary seed companies also and accordingly, the said market share data may understate the market power of the Parties. On account of this, lack of sufficient competitive constraints from secondary seed companies have been factored accordingly.

66. Further, need for high investments in R&D for seeds, lead time of more than 5 years involved from R&D to commercial launch coupled with requirement of a wide distribution network across India creates significant degree of entry barriers in the seed market (both for agricultural and vegetable seeds).

67. For the purpose of competition assessment, the Commission has considered market share (including bulk sales) for the year 2015, as submitted by the Acquirer.

Markets with appreciable adverse effect on competition

68. In this segment, the Commission found competition concerns in various relevant markets related to following agricultural seeds.

1. *Cotton*

69. Bt. cotton is the only genetically modified (GM) seed available in India, which provide inherent resistance to lepidopteran pest. As per the information provided, Monsanto is active not only in the upstream market for licensing of Bt. cotton trait to other seed

companies but is also active in the downstream market for commercialization of Bt. cotton seed in India through MHPL and Mahyco. It has also been submitted that presently, Bayer is not engaged in the upstream market for licensing of traits for cotton seeds in India. Bayer is active only in the downstream market for commercialization of Bt. cotton seed in India, under a license from MMBL. Due to the presence of the Parties in cotton seeds business in India, the following relevant markets are considered for competition assessment:

a) Upstream market for licensing of Bt. trait for cotton seed in India; and

b) Downstream market for commercialization of Bt. cotton seed in India.

Upstream market for licensing of Bt. trait for cotton seed in India

70. As per the submission of the Acquirer, currently only Monsanto is engaged in licensing of Bt. trait for cotton seeds and Bayer is not present in the said relevant market in India. Further, as per the Acquirer, JK Seeds, Nath Seeds, Metahelix, and Central Institute of Cotton Research (CICR) have developed competing Bt. technologies that are available in the market and compete with Monsanto. In this regard, it is noted that there are two types of Bt. cotton technology: single gene and two gene. While JK Seeds, Nath Seeds, Metahelix and CICR offer single gene Bt. cotton technology, Monsanto (through MMBL) is the only player offering two gene Bt. cotton technology which is considered to be more effective against the pests. As per the information available with the Commission, JK Seeds, Nath Seeds and Metahelix have themselves entered into sub-licensing agreements with MMBL for Bt. trait for cotton seed.

71. It is also noted that Bt. cotton technology sub-licensed by MMBL is used in more than [95-100] per cent of the area under Bt. cotton cultivation in India. The Acquirer has also submitted that market share of Monsanto is [95-100] per cent for Bollgard I and [95-100] per cent for Bollgard II. Monsanto is already the most significant player in the relevant

market as its competitors are not able to provide effective competitive constraints and consumers are dependent on it.

72. It is also noted that Monsanto also has Bollgard III *i.e.* three gene Bt cotton technology, which was launched in Australia in 2016. Monsanto is in the process of obtaining regulatory approvals for launching Bollgard III in India. In relation to this approval process, the Acquirer has submitted that the application is currently on hold for some technical reasons.

73. In relation to the contention of the Acquirer that it is not present in the relevant market, it is noted that globally, Bayer offers its TwinLink (two gene Bt. cotton technology) and TwinLink Plus (three gene Bt cotton technology) which deliver Bt. protection against pests and contain a multiple of Bayer's proprietary Bt. genes that provide effective management of major lepidopteran pests. As per the information submitted, Bayer has also earlier pursued obtaining regulatory approvals for its GlyTol LibertyLink TwinLink Plus ("**GLTP**") trait package which would be in direct competition to Bollgard III of Monsanto.

74. It is further noted that Bayer and Monsanto are the major players in the transgenic ('Genetically Modified') cotton seed market. Monsanto has a strong position in herbicide tolerant (HT) and insect resistance (IR) transgenic traits, *e.g.* in the US […]. Bayer is the only other competitor with both herbicide tolerant and insect resistance traits in cotton (GlyTol for glyphosate tolerance, LibertyLink for glufosinate tolerance, TwinLink for insect resistance). The Proposed Combination would, therefore, eliminate the only potential competitor from the market and the Combined Entity would have significant trait penetration in cotton seeds that could lead to the exit of the remaining players and hence to a monopoly.

75. Though, it has been submitted that Bayer discontinued the development of GLTP for the Indian market due to several reasons, the Commission is of the view that Bayer is one of the few potential competitors who has the capability to effectively constrain Monsanto in

this market. In the absence of the Proposed Combination, Bayer would have incentive to introduce both the two gene and three gene Bt. cotton technologies and Monsanto would have incentive to introduce BG III technology, in India. However, the Proposed Combination is likely to reduce the incentive of the Combined Entity to introduce the competing Bt. cotton technologies in India, thereby completely eliminating the competition between the two. The Proposed Combination would result in strengthening of the existing significant position of Monsanto in the market.

76. Further, it is observed that any GM technology in the market has to first go through rigorous research, development and testing and then seek regulatory approvals, which takes around 7-10 years. Further, developing such technology involves cost implications and is subject to regulatory approvals, which create significant entry barriers. The Commission also notes that apart from the Parties, only DowDuPont (with a competing technology *i.e.* WideStrike) is in process of seeking regulatory approvals for commercialisation of its competing technology in India whereas other competitors are still developing their respective two gene technologies.

77. In view of the foregoing, the Commission is of the view that the Proposed Combination is likely to result in AAEC in the relevant market for licensing of Bt. trait for cotton seed in India.

Downstream market of commercialization of Bt. cotton seed in India

Horizontal Overlap

78. As already stated, both Parties are active in the downstream market for commercialization of Bt. cotton seed in India. The market share of Bayer is approx. [0-5] per cent whereas that of Monsanto (along with Mahyco) is approx. [5-10] per cent. As per the information given by Bayer, its Bt. Cotton business in India is based on Monsanto's Bollgard platform. The major players in this market are Nuziveedu Seeds ([15-20] per cent),

Kaveri Seeds ([10-15] per cent), Ajeet Seeds ([10-15] per cent), Rasi Seeds ([5-10] per cent), *etc.*

79. It has been submitted that that MHPL sold its branded cotton seeds business to Tierra Agrotech Private Limited, for reasons unrelated to the Proposed Combination by way of an Asset Purchase Agreement dated 31.08.2017 which has been closed on 18.01.2018. However, it will continue to be present in the relevant market through Mahyco and Bayer's presence in this market will reinforce the position of Combined Entity in the market of commercialization of Bt. cotton seed in India.

80. As already stated, Bt. cotton technology sub-licensed by MMBL is used in more than [95-100] per cent of the area under Bt. cotton cultivation in India. Further, as per the information provided by the Acquirer, Monsanto has sub-licensed Bt. cotton trait to more than 40 enterprises which are present in downstream business of manufacture and sale of Bt. cotton seeds. Thus, almost all the major players operating in the market of commercialization of Bt. cotton seed in India are sub-licensees of Monsanto for Bt. cotton traits.

81. […]. It is noted that MMBL has terminated/not renewed the sub-licensing agreements of few seed companies including Nuziveedu Seeds, which, presently, has a market share of [15-20] per cent in the market of commercialization of Bt. cotton seed in India. As per the information given by Bayer, the issue related to termination of sub-licensing agreements is currently pending appeal before the Hon'ble Supreme Court of India. The Commission is of the view that the present market shares as provided by the Acquirer may undergo change and do not represent near future market dynamics as these seed companies may be out of the market in near future. Further, the Parties are amongst very few players with a pan-India distribution network who have across the value chain presence in the cotton seed market, which puts them in an advantageous position as compared to their competitors in the downstream market. Therefore, the Commission is of the view that any potential harm to competition in future cannot be completely ruled out.

Vertical foreclosure

82. In relation to possibility of vertical foreclosure, specifically input foreclosure, it is noted that Monsanto (through MMBL) has a market share of [95-100] per cent in the upstream market for licensing of Bt. cotton traits in India and therefore, the downstream seed companies are absolutely dependant on the upstream technology provider *i.e.* Monsanto, which itself is present in the downstream market. Thus, Monsanto has the ability and incentive to foreclose access to Bt. cotton traits for the downstream seed companies. Given that Bayer is one of the very few competitors of Monsanto with a competing Bt. cotton technology (as already discussed above in the upstream market), the Proposed Combination reinforces the ability of the Combined Entity to substantially foreclose access to Bt. cotton traits for the downstream seed companies.

83. The Acquirer has submitted that trait fees for Bt. cotton traits is regulated by the Government *vide* Cotton Seeds Price (Control) Order, 2015, which has led to a reduction in revenues. Further, post combination, Bayer is stated to be not in a position to unilaterally increase the license fees for the Bollgard traits. In this regard, it is noted that Monsanto has challenged the notification of price fixation for trait fee and the matter is subjudice. Moreover, increased input cost is not the only way to foreclose the market for the downstream rivals but it may also result by supplying the inputs at less favourable terms in the form of unreasonable and discriminatory conditions in granting access to the inputs. In view of the afore-mentioned, the Commission is of the view that the Proposed Combination is likely to reinforce the ability and incentive of the Combined Entity to substantially foreclose access to Bt. cotton traits for the downstream seed companies.

84. In this regard, it is also noted that in terms of Section 3 & 4 of the Act, the Commission has already directed an investigation, in terms of Section 26(1) of the Act, into various allegations against Monsanto and its affiliates, including MMBL, *inter alia* for anti-competitive practices by imposing unfair and discriminatory conditions in the sub-license agreements relating to Bt. Technology.

85. It is noted that allegations, as mentioned in previous paragraph, have been made by major players such as Nuziveedu Seeds, Kaveri Seeds, Ajeet Seeds, Ankur Seeds, *etc.* who have a significant presence in the downstream market for commercialization of Bt. cotton seed in India. Therefore, any foreclosure strategy on the part of Combined Entity would have a significant detrimental effect on competition in the downstream market.

86. Any input foreclosure on part of the Combined Entity would require potential competitors to enter both the downstream and the upstream level in order to compete effectively in either market. Therefore, the Proposed Combination is likely to significantly impede competition in the downstream market by raising entry barriers for such potential competitors. Such entry would be significantly time and cost intensive.

87. The Commission is also of the view that downstream seed companies do not have enough countervailing buyer power, considering their dependence on Monsanto for traits.

88. In view of the foregoing, the Commission is of the view that the Proposed Combination is likely to result in AAEC in the relevant market for commercialization of Bt. cotton seed in India.

2. Rice

89. In India, Bayer is present in both the upstream market for licensing of parental lines or hybrids for rice seeds as well as in the downstream market for commercialization of hybrid rice seeds in India. Whereas, Monsanto (through Mahyco) is present only in the downstream market for commercialization of hybrid rice seeds in India.

90. In the downstream market, Bayer is the market leader with a market share of [40-45] per cent whereas market share of Monsanto is only [0-5] per cent in the year 2015. The other competitors are DuPont ([15-20] per cent), Metahelix ([5-10] per cent) and Syngenta ([5-10] per cent). Further, [20-25] per cent market share has been assigned to “others” who may not be in a position to effectively constrain the combined entity. It is noted that

Bayer claims to be the world leader in the development of hybrid rice seed varieties and has ongoing R&D activities in rice. Bayer is a strong player globally as well as in India, both in the upstream market for licensing of parental lines due to diversified genetic portfolio and in the downstream market. Though presently, Mahyco do not have significant presence in rice seeds but as per information available in public domain, Mahyco has enhanced its focus for rice seeds and plans to increase its presence in the same.

91. Therefore, the present market shares provided by the Acquirer may not correctly represent future market dynamics in the downstream market and any potential harm to competition in future cannot be excluded altogether based on present market share data.

92. In view of the foregoing, the Commission is of the view that the Proposed Combination is likely to result in AAEC in the relevant market for commercialization of hybrid rice seed in India.

3. Corn

93. It is noted that Monsanto is active both in the upstream market for licensing of parental lines or hybrids for corn seeds as well in downstream market for commercialisation of hybrid corn seeds in India. Bayer is stated to be not active in corn seed market in India. In this relation, it has been submitted that Bayer sold its corn seed business to Rasi Seeds in 2013 and therefore, there does not exist any overlap between the business of the Parties in corn seed in India.

94. However, two competitors during the market investigation have submitted that Bayer and Monsanto have gene stacks for corn seed which can compete with each other, as and when regulatory approvals are accorded for GM corn seed. In relation to corn business sold to Rasi Seeds, it is noted from information available in public domain that Bayer sold its hybrid corn seed in India and not the GM traits for the same. Considering that the Proposed Combination will result in consolidation of two major players in terms of

strength of seed traits and trait stacks, the Commission is of the view that that the Proposed Combination is likely to result in AAEC in the relevant market for licensing of parental lines or hybrids (including traits) for corn seeds in India.

4. Millet

95. India is considered to be the largest producer of Pearl Millet in the world and Bayer is present in both the upstream market for licensing of parental lines or hybrids for millet seeds as well as in the downstream market for commercialization of hybrid millet seeds in India. However, Monsanto (through Mahyco) is only present in the downstream market for commercialization of hybrid millet seeds in India.

96. In the downstream market, Bayer has a market share of [20-25] per cent whereas market share of Monsanto is [0-5] per cent in the year 2015. The other competitors are DuPont ([35-40] per cent), Metahelix ([10-15] per cent) and Kaveri ([5-10] per cent). Further, [15-20] per cent market share has been assigned to "others" who may not be in a position to effectively constrain the combined entity. Though presently, Mahyco does not have significant presence in millet seeds but it is one of the few competitors operating in the market.

97. In view of the foregoing, the Commission is of the view that the Proposed Combination is likely to result in AAEC in the relevant market for commercialization of hybrid millet seed in India.

Markets without any appreciable adverse effect on competition

5. Mustard

98. In India, Bayer is present in both the upstream market for licensing of parental lines or hybrids for mustard seeds as well as in the downstream business of commercial production of mustard seeds. However, Monsanto and Mahyco are not present in

upstream or downstream business for mustard seeds in India. Thus, there is no overlap between the Parties in relation to mustard seeds in India.

II.C Vertical overlaps between seed treatment products and broad acre seeds

99. Seeds are treated with chemicals, either fungicide or insecticide to protect seeds from certain pests and diseases in the early stage of their development (when the seed is still in the soil). It is noted that generally seeds are treated (or "dressed") before they are planted. As already stated earlier, amongst the Parties, only Bayer is present in seed treatment products in India and both the Parties sell treated seeds in India.

Relevant market

100. It is observed that seed treatment fungicides and seed treatment insecticides target different pests and diseases and therefore they cannot be considered as substitutes. Further, both fungicide and insecticide seed treatment products need to be registered on a crop-by-crop basis. Therefore, the Commission is of the view that relevant product markets for seed treatment products are, as follows:

(i) Seed treatment insecticides for a specific crop seeds; and
(ii) Seed treatment fungicides for a specific crop seeds.

101. Further, based on the insignificant transportation cost, pan-India licences & approvals, *etc*. the relevant geographic market appears to be the territory of India. However, since the Proposed Combination is not likely to result in AAEC in any of the upstream market of seed treatment insecticides for a specific crop seeds, the exact delineation of the relevant market may be left open.

102. *Seed treatment insecticides for rice / paddy seeds in India*: From the submission of the Acquirer, it is noted that Bayer has market share of [60-65] per cent in seed treatment insecticides for paddy seeds. Furthermore, post-combination, the Combined Entity would have a strong presence in the market of commercialisation of hybrid rice seeds with market share of [40-45] per cent (as already discussed above).

103. *Seed treatment insecticides for cotton seeds in India*: From the submission of the Acquirer, it is noted that Bayer has market share of [60-65] per cent in seed treatment insecticides for cotton seeds. Furthermore, post-combination, the Combined Entity may have strong presence in the market of commercialisation of Bt. cotton seeds in India, for reasons already discussed above.

104. *Seed treatment insecticides for corn seeds in India*: From the submission of the Acquirer, it is noted that Bayer has market share of [55-60] per cent in seed treatment insecticides for corn seeds. Furthermore, post-combination, the Combined Entity will have significant presence in the market of commercialisation of hybrid corn seeds in India with market share of around [15-20] percent.

105. In this regard, it is noted that the proportion of cost of seed treatment products in the overall seed cost is not significant enough which will allow the Combined Entity to increase the costs of downstream competitors in the market thereby leading to an upward pressure on their sales prices. Further, based on its market investigation, the Commission also notes that proportion of area under cultivation for which treated seeds are used is very low. Thus, the Combined Entity is not likely to have the incentive to foreclose supply of seed treatment products to its downstream suppliers. Moreover, such strategy is also not likely to have any anti-competitive effect in the market.

106. In view of the above, the Commission is of the view that the Proposed Combination is not likely to result in input foreclosure in the market for seed treatment insecticides for the

above seeds in India and therefore, not likely to cause AAEC in the downstream market(s).

II.D Vegetable Seeds & Traits

107. As per the information provided in the notice, both Parties are engaged in vegetable seeds business, globally and in India. Out of total 22 vegetable seeds sold by the Parties in India, their products overlap in 16 vegetable seeds.

Relevant Market

108. The distinction between upstream market of licensing of parental lines or hybrids and downstream market for commercialization of seeds is not significant for vegetable seeds. It is noted from the information provided that Bayer does not license germplasm, parental lines or hybrids for vegetable seeds in India. Further, Monsanto has granted licenses to only […] entities/organisations for which […] royalty payments have been made till date as […] seeds have been commercialised. Therefore, the Commission is of the view that the distinction between exchange/licensing of parental lines/germplasm and commercialization of vegetable seeds may not be relevant in the instant case and therefore may be assessed as single relevant product market.

109. As elaborated in delineation of relevant product market for agricultural seeds, different vegetable seeds and hybrids and OPVs of those seeds constitute different relevant product markets. Further, different segments of hybrids of a seed share the same intended end use and the same customers. For reasons already discussed in agricultural seeds segment, relevant geographic market for vegetable seeds also, is territory of India.

110. Accordingly, the Commission is of the view that relevant market is **market for each specific vegetable crop hybrid seeds in India**.

Competition Assessment

111. It is noted from the market share data (including bulk sales) provided by the Acquirer that a significant proportion of the market have been assigned to "other" players which seemingly may have a market share of less than [0-5] per cent each. In this regard, as already discussed in agricultural seeds segment, a distinction can be made between primary seed companies and secondary seed companies who are characterized by different capabilities in the value chain for seeds and are active at different stages of the value chain, where the latter will not be in a position to effectively constrain the former. Therefore, the Commission is of the view that these competitors falling in the "other" category, which are mostly secondary seed companies, will not be in a position to exercise effective competitive constrain on the Combined Entity.

112. It has been submitted that distribution facilities are of significant importance as the end-consumer of agricultural products is the farmer - who is present throughout the country including remote locations. A robust distribution network is required to ensure maximum reach. Further, in view of the nature of the product, good storage facilities which prevent damage to the crop have to be created. It is noted that apart from the Parties, few other competitors have robust distribution network like Namdhari, East West, *etc*. However, the small players in the market may not have a robust distribution network which is reflected in their limited presence in the market. Therefore, the Commission is of the view that they may not be able to constrain the major seed players (including Parties) in the market. The Commission also notes that the market share data submitted by the Acquirer includes secondary seed companies also and accordingly, the said market share data may understate the market power of the Parties. On account of this, lack of sufficient competitive constraints from secondary seed companies have been factored accordingly.

Markets with appreciable adverse effect on competition

113. Though the products of the Parties overlap in 16 vegetable seeds, the Commission is of the view that the Proposed Combination is likely to result in AAEC in at least 10 vegetable seed markets, as discussed below.

1. Cabbage

114. In this relevant market, Monsanto (along with Mahyco) is the market leader with a market share of [40-45] per cent and Bayer has a market share of [5-10] per cent. The combined market share of the Parties is [45-50] per cent. The Proposed Combination is likely to result in a change in Herfindahl-Hirschman Index (HHI) of more than 500. The other significant competitors in this market *i.e.* Syngenta ([15-20] per cent), Sakata ([5-10] per cent) and Takii ([0-5] per cent), are distantly placed in terms of market shares. The difference between the market shares of the Combined Entity and the next competitor would be [30-35] per cent. Further, the Combined Entity would be the largest player in this market and its size would be three times of the second largest competitor. It is also noted that [15-20] per cent market share has been assigned to "others" who may not be in a position to effectively constrain the Combined Entity, post-combination.

115. Pre-combination, top 3 and top 4 players constitute [65-70] per cent and [70-75] per cent of the market, respectively, indicating that market is highly concentrated which is likely to further concentrate after the Proposed Combination.

116. In relation to cabbage, the Acquirer have submitted that prior to the Proposed Combination, Bayer had initiated plans to terminate its cabbage breeding program as it was not strategically viable. Bayer terminated its cabbage breeding program in 2016. The Commission is not satisfied with the contention of the Acquirer that with the termination of the breeding of the cabbage seeds, competition in the relevant market would not suffer. The Commission is of the opinion that although, Bayer has terminated its cabbage

breeding program, there is always a possibility of re-entering the relevant market with its breeding capability, germplasm pool, existing pan-India distribution networks, *etc*.

117. Therefore, the Commission is of the view that the Proposed Combination is likely to cause appreciable adverse effect on competition in the relevant market for hybrid cabbage seeds in India.

2. Cucumber

118. In this relevant market, Monsanto (along with Mahyco) is the market leader with a market share of [15-20] per cent whereas Bayer has a market share of [10-15] per cent. The combined market share of the Parties is [25-30] per cent. The Proposed Combination is likely to result in a change in HHI of more than 400. The other significant competitors in this market *i.e.* East West Seeds ([10-15] per cent), Rasi Seeds ([5-10] per cent) and Namdev Seeds ([5-10] per cent), are distantly placed in terms of market shares. The Combined Entity would be the largest player in this market and its size would be three times of the second largest competitor. It is also noted that [40-45] per cent market share has been assigned to "others" who may not be in a position to effectively constrain the Combined Entity, post-combination.

119. Pre-combination, top 4 players constitute about half of the market and the Proposed Combination may further concentrate the market. Therefore, the Commission is of the view that the Proposed Combination is likely to cause appreciable adverse effect on competition in the relevant market for hybrid cucumber seeds in India.

3. Bitter Gourd

120. In this relevant market, Bayer is the second largest player with a market share of [30-35] per cent whereas, market share of Monsanto (along with Mahyco) is [5-10] per cent. The combined market share of the Parties is [35-40] per cent. The Proposed Combination is

likely to result in a change in HHI of more than 350. The major competitor in this market *i.e.* East West Seeds has a market share of [30-35] per cent, whereas other significant competitor *i.e.* VNR with a market share of [10-15] per cent, is distantly placed in terms of market shares. The Combined Entity would be the largest player in this market. It is also noted that [10-15] per cent market share has been assigned to "others" who may not be in a position to effectively constrain the Combined Entity, post-combination.

121. Pre-combination, top 3 and top 4 players constitute about [75-80] per cent and [80-85] per cent of the market, respectively, indicating that market is already highly concentrated which is likely to further concentrate after the Proposed Combination. Therefore, the Commission is of the view that the Proposed Combination is likely to cause appreciable adverse effect on competition in the relevant market for hybrid bitter gourd seeds in India.

4. Bottle Gourd

122. In this relevant market, Monsanto (along with Mahyco) is the market leader with a market share of [40-45] per cent whereas Bayer has a market share of [0-5] per cent. The combined market share of the Parties is [45-50] per cent. The Proposed Combination is likely to result in a change in HHI of more than 350. East West Seeds is the only major competitor in the market with a market share of [25-30] per cent. The Combined Entity would be the largest player in this market and its size would be approximately twice the size of second largest competitor. It is noted that [20-25] per cent market share has been assigned to "others" who may not be in a position to effectively constrain the Combined Entity, post-combination.

123. Further, prior to Proposed Combination, top 3 players constitute about [70-75] per cent of the market, indicating that market is highly concentrated which is likely to further concentrate after the Proposed Combination. Therefore, the Commission is of the view that the Proposed Combination is likely to cause appreciable adverse effect on competition in the relevant market for hybrid bottle gourd seeds in India.

5. Okra

124. In this relevant market, Bayer is the market leader with a market share of [30-35] per cent whereas Monsanto (along with Mahyco) has a market share of [5-10] per cent. The combined market share of the Parties is [35-40] per cent. The Proposed Combination is likely to result in a change in HHI of more than 500. The other significant competitors in this market *i.e.* JK Seeds ([5-10] per cent) and Syngenta ([0-5] per cent), are distantly placed.The difference between the market shares of the Combined Entity and the next competitor would be [30-35] per cent. Further, the combined entity would be the largest player in this market and its size would be five times of the second largest competitor. It is also noted that [35-40] per cent market share has been assigned to "others" who may not be in a position to effectively constrain the Combined Entity, post-combination.

125. Pre-combination, top 3 players constitute about [45-50] per cent of the market, indicating that market is concentrated which is likely to further concentrate after the Proposed Combination. Therefore, the Commission is of the view that the Proposed Combination is likely to cause appreciable adverse effect on competition in the relevant market for hybrid okra seeds in India.

6. Hot Pepper

126. In this relevant market, Bayer is the market leader with a market share of [20-25] per cent whereas Monsanto (along with Mahyco) has a market share of [15-20] per cent. The combined market share of the Parties is [40-45] per cent. The Proposed Combination is likely to result in a change in HHI of more than 900. The other significant competitors in this market *i.e.* Syngenta ([5-10] per cent), Bejo ([5-10] per cent) and Namdhari ([5-10] per cent), are distantly placed in terms of market shares. The difference between the market shares of the Combined Entity and the next competitor would be [30-35] per cent. Further, the Combined Entity would be the largest player in this market and its size would be five times of the second largest competitor. It is also noted that [30-35] per cent

market share has been assigned to "others" who may not be in a position to effectively constrain the Combined Entity, post-combination.

127. Pre-combination, top 3 and top 4 players constitute about [50-55] per cent and [55-60] per cent of the market, respectively, indicating that market is concentrated which is likely to further increase as the Proposed Combination involve the two largest players in the market. It is also noted that both the Parties have pipeline products as well as ongoing R&D projects for hot-pepper seeds. Therefore, the Commission is of the view that the Proposed Combination is likely to cause appreciable adverse effect on competition in the relevant market for hybrid hot pepper seeds in India.

7. Tomato

128. In this relevant market, Bayer is the second largest player with a market share of [15-20] per cent followed by Monsanto with a market share of [10-15] per cent. The combined market share of the Parties is [30-35] per cent. The Proposed Combination is likely to result in a change in HHI of more than 450. The major competitor in this market *i.e.* Syngenta has a market share of [20-25] per cent, whereas other competitors *i.e.* Namdhari Seeds ([5-10] per cent) and Clause ([5-10] per cent) are distantly placed in terms of market shares. The Combined Entity would be the largest player in this market and it would be fifty per cent larger than the second largest competitor. It is also noted that [30-35] per cent market share has been assigned to "others" who may not be in a position to effectively constrain the Combined Entity, post-combination.

129. Pre-combination, top 3 and top 4 players constitute about [50-55] per cent and [60-65] per cent of the market, respectively, indicating that market is concentrated which is likely to further concentrate after the Proposed Combination. It is also noted that both the Parties have pipeline products as well as ongoing R&D projects for hybrid tomato seeds. One of the competitors has submitted that the combined market share of the Parties is approx. 50 per cent and accordingly, they will gain a leading market position in the

hybrid tomato seeds market, potentially limiting sources for the grower and seed distributors.

130. Therefore, the Commission is of the view that the Proposed Combination is likely to cause appreciable adverse effect on competition in the relevant market for hybrid tomato seeds in India.

8. Water Melon

131. In this relevant market, Bayer is the second largest player with a market share of [15-20] per cent whereas Monsanto (along with Mahyco) has a market share of [5-10] per cent. The combined market share of the Parties is [20-25] per cent. The Proposed Combination is likely to result in a change in HHI of more than 200. The major competitors in this market *i.e.* Syngenta and Namdhari have a market share of [30-35] per cent and [10-15] per cent, respectively. The Combined Entity would be the second largest player in this market.

132. It is noted that market is highly concentrated characterised by presence of 4 major players (including Parties) constituting approx. [65-70] per cent of the market. Though the combined market share of the Parties is only [20-25] per cent; the Proposed Combination is a 4 to 3 merger and it eliminates an important player from the market. It is noted that [30-35] per cent market has been assigned to “others” which may not be in a position to exercise competitive constraint, post-combination.

133. Therefore, the Commission is of the view that the Proposed Combination is likely to cause appreciable adverse effect on competition in the relevant market for hybrid water melon seeds in India.

9. Ridge Gourd

134. In this relevant market, Monsanto (through Mahyco) is the second largest player with a market share of [20-25] per cent whereas Bayer has a market share of [5-10] per cent. The combined market share of the Parties is [30-35] per cent. The Proposed Combination is likely to result in a change in HHI of more than 350. The major competitor in this market is East West with a market share of [25-30] per cent. The Combined Entity would be the largest player in this market.

135. Pre-combination, top 3 players constitute about [55-60] per cent of the market, indicating that market is concentrated which is likely to further concentrate as the Proposed Combination involves merger of 2nd and 3rd largest players in the market. [35-40] per cent market share has been assigned to "others" who may not be in a position to effectively constrain the combined entity.

136. Therefore, the Commission is of the view that the Proposed Combination is likely to cause appreciable adverse effect on competition in the relevant market for hybrid ridge gourd seeds in India.

10. Onion

137. It is observed that in this relevant market, Monsanto is the market leader with a market share of [35-40] per cent whereas Bayer has a market share of [15-20] per cent. The combined market share of the Parties is [50-55] per cent. The Proposed Combination is likely to result in a change in HHI of more than 1150. The Acquirer have grouped all other players in "others" category which includes East West Seeds. The Combined Entity would be the largest player in this market.

138. Pre-combination, top 2 players *i.e.* Bayer and Monsanto constitute more than [45-50] per cent of the market, indicating that market is concentrated which is likely to further concentrate after the Proposed Combination. Therefore, the Commission is of the view

that the Proposed Combination is likely to cause appreciable adverse effect on competition in the relevant market for hybrid onion seeds in India.

Markets without any appreciable adverse effect on competition

139. As per the information given in the notice, the Parties do not have overlaps in the market for beans, broccoli, pickling cucumber, lettuce, marigold and sweet corn seeds. Further, in the following markets, the Proposed Combination is not likely to result in any AAEC in India, for reasons discussed below.

11. Carrot

140. In this relevant market, Syngenta is the market leader with a market share of [25-30] per cent followed by Clause Seeds at [20-25] per cent. Bayer has a market share of [5-10] per cent. As per the information given, Monsanto entered this crop recently on a bulk sale model *i.e.* by procuring seeds from other seed manufacturer on a trial basis. […] Thus, the Commission is of the view that the Proposed Combination is not likely to result in AAEC in the relevant market for hybrid carrot seeds in India.

12. Cauliflower

141. In this relevant market, Monsanto (along with Mahyco) is the market leader with a market share of [20-25] per cent and Bayer has insignificant presence in the market with a market share of [0-5] per cent. The combined market share of the Parties is [20-25] per cent and the Proposed Combination is likely to result in a change in HHI of less than 50 only. Further, the Combined Entity is likely to face competition from Syngenta ([5-10] per cent), Sakata ([5-10] per cent) and Advanta ([5-10] per cent). It is noted that the incremental market share is only [0-5] per cent and therefore, the power of the Combined Entity is not likely to enhance substantially in this relevant market. Thus, the Commission is of the view that the Proposed Combination is not likely to result in AAEC in the relevant market for hybrid cauliflower seeds in India.

13. Eggplant

142. In this relevant market, Monsanto (along with Mahyco) is the market leader with a market share of [10-15] per cent whereas Bayer has a market share of [5-10] per cent. The combined market share of the Parties is [15-20] per cent and the Proposed Combination is likely to result in a change in HHI of more than 150. The Combined Entity is likely to face competition from VNR Seeds ([5-10] per cent), Doctor Seeds ([0-5] per cent) and Clause Seeds ([0-5] per cent). The remaining players do not have significant presence in this market. However, [60-65] per cent market share has been assigned to "*other*" players by the Parties. […] Thus, the Commission is of the view that the Proposed Combination is not likely to result in AAEC in the relevant market for hybrid eggplant seeds in India.

14. Melon

143. In this relevant market, Monsanto has the market share of [0-5] per cent whereas Bayer has a market share of [0-5] per cent. The combined market share of the Parties is only [5-10] per cent. Thus, the Commission is of the view that the Proposed Combination is not likely to result in AAEC in the relevant market for hybrid melon seeds in India.

15. Radish

144. In this relevant market, Syngenta is the market leader with a market share of [20-25] per cent. Mahyco and Bayer has the market share of [0-5] per cent each. The combined market share of the Parties is only [5-10] per cent. Thus, the Commission is of the view that the Proposed Combination is not likely to result in AAEC in the relevant market for hybrid radish seeds in India.

16. Sweet Pepper

145. In this relevant market, Syngenta is the market leader with a market share of [60-65] per cent. Monsanto (along with Mahyco) has the market share of [10-15] per cent whereas Bayer has a market share of [0-5] per cent. The combined market share of the Parties is only [10-15] per cent. Thus, The Commission is of the view that the Proposed Combination is not likely to result in AAEC in the relevant market for hybrid sweet pepper seeds in India.

II.E Global nature of the R&D in seeds

146. It is noted from the various submissions that both the Parties are engaged in R&D activities in seeds & traits with facilities located at various places across the globe. The successful products are introduced in India after testing for Indian conditions. Globally, the Parties have overlapping R&D activities for number of crops like soybean, cotton, corn, mustard, rice, wheat, *etc.* In this regard, one of the respondent has also submitted that both the Parties have a global program for licensing of seed varieties.

147. Most of the competitors in the market investigation have submitted that traits are not crop specific and therefore they can be introgressed into different crops. This indicates that expertise developed in one crop can be replicated in other crops also. Further, the competitors of the Parties in their response to the Commission's communication under Regulation 19(3) of Combination Regulations have invariably placed Monsanto at the first position in terms of its strength of trait and trait stack portfolios and gave second or third position to Bayer..

148. It is noted that apart from their strong position in Genetically Modified Traits (GM Traits), the Parties have strong position in R&D activities related to non-GM traits. As already stated, in a GM Trait, a foreign gene is inserted to achieve desired results, whereas as per the New Breeding Techniques (NBTs), a plant genome can be modified without inserting non-native DNA, by prompting genetic mutations using

chemical/radiological elements and are considered as non-genetically modified ('non-GM'). The Commission also notes from the information available in the public domain that CRISPR-Cas 9 is one such technology for which Monsanto has concluded licensing agreements with the Broad Institute for use in its seed development as well as for CRISPR-Cpf1 in order to apply this technology across multiple crops.

149. It appears from the ongoing debate at the global level that non-GM traits are outside the purview of regulatory framework for approval of GM traits. Therefore, with CRISPR-Cas 9 and other similar technologies, the Parties would be in a competitively advantageous position to bypass a typically complex, lengthy and costly regulatory process of approval of genetically modified traits, thereby significantly enhancing their ability to deliver new products in the market to the exclusion of their competitors.

150. Monsanto's (as well as Bayer's) leading germplasm and genome libraries, as well as their strong position in traits (both GM and non-GM), will provide the Combined Entity with a significant competitive advantage in the application of genome editing and Big Data technologies, thus entrenching their leading position in agricultural biotechnology and affecting the incentives of would be entrants in the industry.

151. Therefore, the Proposed Combination will result in consolidation of two major players in terms of strength of their traits and trait stacks (both GM and non-GM) and would create the world leader in seeds and genetic traits. The Commission is of the view that the Proposed Combination may stifle competition in the innovation of the new products as the combination is likely to negatively impact the innovation and development of new GM as well as non-GM traits and licensing industry in terms of innovation, royalty, access of competitors and customers to such traits and traits stacks. There are concerns that the combined power of Bayer and Monsanto will be such that it would allow them to effectively bind their potential customers of technology by way of imposition of restrictive conditions or prohibitive switching costs in a way that the potential customers will find it difficult to adopt technology options available from other players in the market.

152. The Proposed Combination would lead to loss of innovation by reducing product variety and quality. Both the Parties have overlapping R&D activities in seeds and traits. Therefore, in the absence of the Proposed Combination, the Parties would have continued competing R&D efforts, which would have resulted in new and improved alternative products for the ultimate consumer. The Proposed Combination would reduce the choice available to farmers thereby harming the consumers, directly.

153. Accordingly, the Commission is of the view that the Proposed Combination is likely to reduce the rate of innovation at which new products are launched globally and in India and therefore, adversely affect the Indian seed market.

III. Portfolio Effects

154. It is noted that the Proposed Combination also brings together complementary portfolios of the two companies. While Bayer is focused primarily on agrochemicals and vegetable seeds, Monsanto's strengths lie in non-selective herbicides, traits, and agricultural seeds. Generally, portfolio effects include potential anti-competitive effects that might arise due to a merger uniting complementary products in which one or more parties enjoy significant market power.

155. The Commission is of the view that the Combined Entity will have the ability to bundle their portfolios of crop protection products, seeds and traits which may have a negative impact on competitors and customers *e.g.* the Combined Entity may develop new traits for seeds for which only they will be able to develop agrochemical products and therefore, the rest of the competitors would be excluded from the market. The Commission notes that one of the key rationale for the Proposed Combination is the ability of the Combined Entity to offer integrated agricultural offerings. In the market investigation, one of the respondents has submitted that Monsanto has earlier tried this strategy in relation to its herbicide tolerant technology. While testing RRF (Roundup Ready Flex) cotton in India, Monsanto proposed a specific formulation of glyphosate

which others cannot make for some time. If RRF cotton trait was approved, it would have been with a recommendation to use this specific formulation of glyphosate so that they get revenue out of both trait fee and sale of glyphosate specific formulation. Some of the competitors have also submitted that bundling is possible in Indian market. In view of the foregoing, the Proposed Combination would lead to potential increase in the ability of the Parties to leverage complementary product sales, especially in regards to the possibility that the Parties' market power in the seeds and transgenic events might be leveraged for complementary product segments like agrochemicals.

156. It is also noted that Bayer is a major player in overall seed treatment products for both insecticides as well as fungicides (market share indicated along with), such as Fipronil 5 SC ([45-50] per cent), Imidacloprid 600FS ([95-100] per cent), Pencycuron 250 SC ([95-100] per cent), Propineb 70 WP ([95-100] per cent), Tebuconazole 2DS ([55-60] per cent), Tebuconazole 60 FS ([95-100] per cent) which are used as seed treatment products for certain crops. Post-combination, Bayer would have significant presence in seeds, agro-chemicals along with seed treatment products, and with strong distribution network, there is likelihood that Bayer may bundle seed treatment products with seeds and / or other agro-chemical products.

157. The Proposed Combination would create the largest integrated agricultural company with significant market power across value chains in agrochemicals and seeds segments. The combined portfolio of crop protection products and seeds business of the Combined Entity may result in increase in the already high barriers to entry. New/potential entrants will need significant time and capital to successfully enter the multiple segments simultaneously, to compete effectively with the Combined Entity.

158. As submitted by the Acquirer, the combined distribution channels of the two companies will provide greater accessibility to their complementary products, *i.e.*, seeds, traits and crop protection products. Flexibility in offering complete solutions to farmers will also strengthen the distribution position of the Combined Entity. The Acquirer has also submitted that all agreements with distributors and dealers are non-exclusive and they can

deal with the products of the competitors. Thus, presently, all the competitors are probably relying on same distributor network for accessing the market and are dependent on them for their business. Now, given the wide ranging complementary portfolio of the Parties and the importance of the distribution network, the Combined Entity may incentivise the distributors to give preference to its products over the competitors. This behaviour may result in exclusion of the competitors from the market. Few competitors have also expressed concerns in relation to restricted access to distribution network, during market investigation.

159. Further, the Proposed Combination may give the Combined Entity considerable advantages over smaller rivals not supplying the entire agricultural input range because of scale economies in marketing and distribution. It may also be easy for the Combined Entity to extend its product range, limiting the ability of smaller competitors to gain economies of scale and scope, sufficient to compete. Further, new entrants in the market may also have to confront with a substantial entry barrier in securing distribution networks.

160. It may also be possible for the Combined Entity to exercise market power by extracting a premium for the bundled services. The portfolio of brands may be a more attractive option than a set made up of the brands of a number of smaller competitors. The transaction costs to retailers for example in assembling a set of brands equal to those supplied by the Combined Entity may disadvantage the smaller brand owners in gaining extensive distribution. At the extreme, smaller competitors may lose volume as they lose distribution and hence may lose scale economics.

161. It is also noted that the Parties have number of licensing (in/out) agreements with other players globally like DowDuPont, BASF, Syngenta, *etc*. The scope of these agreements covers both germplasm, transgenic as well as non-transgenic traits, herbicides, *etc*. These agreements are entered into for the purpose of diversifying the genetic databank of the respective companies. Post combination, the Combined Entity would have a significant genetic databank in respect of various crops which may reduce its dependence on others

for diversifying its genetic databank. Accordingly, the Combined Entity is likely to have an incentive to deny licensing of such data to other players. Denial of such licensing request may create significant entry barriers to existing players as well as new entrants as they would not be able to gain access to required databank of genetic material in order to compete effectively in the market. As already stated, Monsanto has been ranked as top player in terms of strength of its traits and trait stacks whereas Bayer has been ranked as no. 2 to 4 out of six global players.

162. Globally, both Bayer and Monsanto have forayed into digital farming by creating their own Information Technology (IT) platforms for the potentially lucrative data-driven smart agriculture market. Digital farming is a term for agronomic decision-making tools for farmers based on data and advanced analytics. At the core of digital farming solutions, there is a software that processes localised agronomic data (such as field-specific weather and soil information), and, on the basis of algorithms, provides the farmer with recommendations for seeding, crop protection and/or fertiliser usage at field or sub-field level. The purpose of precision farming is to enable the farmer to make more efficient agronomic decisions and optimise the usage of seeds, crop protection products and fertiliser, ultimately leading to a reduced use of these inputs. Though the technology for the same is still emerging, however, many stakeholders including Parties expect digital agriculture to become one of the main drivers for farmers' choice of seeds and crop protection products in the future.

163. Both Bayer and Monsanto have acquired various entities in recent past, which were focussed on developing digital farming applications. Some of the digital farming applications of Bayer include Zoner, Expert, *etc.* whereas that of Monsanto includes Field View, VitalFields, *etc.* It has been submitted that presently, only Monsanto is offering its IT solutions in India and none of the Bayer's digital farming solutions are available in India. In this regard, it is noted from the website of Bayer[2] that crop science technology of Bayer envisages further development of digital farming and thus going forward Bayer plans to offer its digital farming applications in India. The Commission is of the view that

[2] Available at https://www.bayer.in/about/bayer-in-india/crop-science/ Last accessed on 04.03.2018.

the Combined Entity would be in significant competitive advantageous position to adapt and tweak its global digital applications to suit Indian conditions. Post combination, the Combined Entity's transformation into one-stop-shop platform, providing packaged solutions to the farmers in the seed and traits value chain and the agrochemical supply chain through their digital applications would lead to enhancement of its market power *vis-à-vis* its competitors who may be unable to offer similar integrated services to the farmers. Going forward, digital agriculture would be an important enabler for integrating businesses in neighbouring or complementary markets.

164. Further, the Parties have access to existing agro-climatic data for use in their respective digital applications which in turn capture and generate more data. The Proposed Combination would consolidate such access to data for the Combined Entity. Access to such data would be critical for any market participant for effectively competing with the Combined Entity. Therefore, the Proposed Combination is likely to result in enhanced entry barriers for existing market participants who may not have access to the required field data and accordingly, they are likely to find it difficult to replicate the position enjoyed by existing market participants.

165. Both the Parties have a comprehensive portfolio of input products, which give the Combined Entity a significant competitive advantage in developing digital agricultural platforms to the detriment of other market participants. The Combined Entity would have the ability and incentive to foreclose other competitors offering crop protection, seed and trait, and other digital agriculture solutions. The large scale and commercial footprint of the Combined Entity would enable more data capture, the ability to spread development costs and allocate more resources to simply out-spend smaller competitors. It is possible that the farmers and growers on the Bayer/Monsanto 'platform' could be de-incentivised from accessing other input suppliers.

166. Thus, the Commission is of the view that apart from horizontal and vertical competition concerns as discussed above, the Parties are active in closely related markets which could result in portfolio effects in the form of exclusion of competitors.

167. Considering the facts on record and the details provided in the notice given under sub-section (2) of section 6 of the Act and assessment of the Proposed Combination on the basis of factors stated in sub-section (4) of section 20 of the Act, the Commission is of the opinion that the Proposed Combination is likely to have an AAEC in various markets as discussed above.

MODIFICATION TO ADDRESS AAEC CONCERNS

168. As stated above, the analysis of the Commission revealed likelihood of AAEC concerns emanating from the Proposed Combination in the following markets:

a.) market for non-selective herbicides;

b.) market for licensing of herbicide tolerant trait for seeds in India;

c.) upstream and downstream market for Bt. Cotton seeds in India;

d.) market for licensing of parental lines or hybrids (including traits) for corn seeds in India;

e.) market for commercialization of hybrid rice and hybrid millet seed in India; and

f.) market for various vegetable hybrid seeds in India *i.e.* cabbage, cucumber, bitter gourd, bottle gourd, okra, hot pepper, tomato, water melon, ridge gourd and onion.

Apart from above, the Proposed Combination is also likely to (a) result in portfolio effects due to Parties presence in closely related markets; and (b) reduce the rate of innovation at which new products are launched globally and in India and therefore, adversely affect the Indian markets.

169. The Commission noted that in accordance with the provisions of the Act, it may either direct that the combination shall not take effect in accordance with sub-section (2) of Section 31 of the Act or may propose a modification to the combination in accordance with sub-section (3) of Section 31 of the Act. The modification proposed would need to be comprehensive and effective in order to eliminate the appreciable adverse effect on competition in India, while enabling the Parties to consummate the Proposed Combination.

170. The Commission is of the opinion that modifications should be such that they allows for establishment of independent supplier(s) and competitor(s) in the relevant market(s) or strengthen the existing competitor(s) for each of the aforementioned relevant product markets and/or product/business segment. The competitors must have assured supplies of raw materials required and access to other inputs required for manufacture and supply of the product into the market. In view of above, the modification aims to maintain the existing level of competition in the relevant markets through:

i. Creation of viable, effective, independent and long-term competitor(s) in the relevant market(s); and

ii. Ensuring that the buyer of the divestment assets has the necessary components, including transitional support arrangements, to compete effectively with the Combined Entity in the relevant market(s) in India.

171. Based on the above, the Commission proposed modification to the combination, to the Acquirer, in terms of sub-section (3) of Section 31 of the Act, *vide* communication dated 08.03.2018 ("**Proposal for Modification**") so that such likely adverse effect on the competition in the relevant market can be eliminated. For drafting its proposal for modification, the Commission also considered the remedy proposal dated 26.02.2018 submitted by Bayer. The Commission noted that Bayer had entered into an agreement with BASF SE on 13.10.2017 to divest its glufosinate ammonium business and part of its

broad acre seeds and traits business, in order to address the potential competition concerns of antitrust authorities globally, in connection with the Proposed Combination.

172. Bayer, in terms of sub-section (6) of Section 31 of the Act, submitted certain amendments to the Proposal for Modification *vide* submission dated 25.04.2018, after seeking an extension of two days, followed by a clarification letter filed on 26.04.2018. Subsequently, Bayer submitted revised amendments to the Proposal for Modification covering certain additional clarifications, *vide* response dated 16.05.2018, in supersession to the previous amendment proposal submitted on 25.04.2018 & clarified by letter dated 26.04.2018. The Commission is of the considered view that amendments to the Proposal for Modification filed by Bayer on 16.05.2018 do not change the intended effect of the modifications proposed in the Proposal for Modification and accordingly, the Commission decided to accept the same.

173. Pursuant to the above, the Commission hereby approves the Proposed Combination under sub-section (7) of Section 31 of the Act, subject to the Parties carrying out the modification to the Proposed Combination, as provided below. These modifications address the findings of AAEC in various markets as summarized in para 168 above.

MODIFICATION TO THE PROPOSED COMBINATION

174. The Parties shall comply with the modifications laid down in Section A, Section B, Section C, Section D and Section E, below ("**Modification to the Proposed Combination**").

175. All capitalised terms used in the Modification to the Proposed Combination shall have the meaning provided in **Appendix A** annexed herewith if the same are not defined in the body of the Modification to the Proposed Combination.

SECTION A: NSH-BAC DIVESTMENT BUSINESSES

176. In order to maintain effective competition, Bayer shall divest or procure divestiture of the NSH-BAC Divestment Businesses as a going concern, by the end of the First Divestiture Period, in accordance with the Order.

177. The NSH-BAC Divestment Businesses comprises:

a) Bayer's global glufosinate ammonium business (the "**NSH Divestment Business**"); and

b) Bayer's global broad acre crop seeds and traits business, with certain limited carve-outs, namely: hybrid rice in Asia; juncea (mustard), millet and cotton seeds business in India; cotton in South Africa; as well as R&D programmes directed to sugarcane in Brazil, and sugar beet in Europe (the "**Broad Acre Crop Divestment Businesses**"). The crops specifically relevant to India are cotton and corn.

178. The NSH-BAC Divestment Businesses shall include all assets and staff that will be required by the Approved Purchaser to continue Bayer's current broad acre crop seeds and traits, and non-selective herbicide operations, or are necessary to ensure the viability and competitiveness of all elements of the NSH-BAC Divestment Businesses. In particular, and as specified in more detail in Schedule I, the NSH-BAC Divestment Businesses includes (in relation to Broad Acre Crop Divestment Business and NSH Divestment Business), but is not limited to all:

a) tangible and intangible assets (including intellectual property rights);

b) R&D facilities and the pipeline products under development;

c) transferrable licences, permits and authorizations issued by any governmental organisation for the benefit of the elements of the NSH-BAC Divestment

Businesses. Bayer will assist the Approved Purchaser in acquiring any non-transferable licences within a defined period of time, also by providing any required data packages;

d) contracts, leases, commitments and customer orders of the elements of the NSH-BAC Divestment Businesses;

e) Bayer's supplier and customer contracts;

f) customer, credit and other records of the elements of the NSH-BAC Divestment Businesses; and

g) personnel, including Key Personnel engaged on the NSH-BAC Divestment Businesses.

179. If there is any asset or personnel which is not covered above but which are both used (exclusively or not) in a part of NSH-BAC Divestment Businesses and are necessary for the continued viability and competitiveness of part of the NSH-BAC Divestment Businesses, that asset, personnel, or an adequate substitute will be offered to the Approved Purchaser.

Transitional Support

180. In addition, the NSH-BAC Divestment Businesses shall include such transitional support as may be required by the Approved Purchaser, which is necessary to enable the Approved Purchaser to conduct the NSH-BAC Divestment Businesses in at least the same manner as Bayer operated at the time of execution of the Combination Agreement. Bayer will provide all such transitional support as required by the Approved Purchaser and deemed necessary by the Commission on the recommendation of the Monitoring Agency or the Divestiture Agency, as the case may be. In particular, the transitional support shall include:

a) Bayer to provide training and information required by the Approved Purchaser, delivered by appropriate specialists, to prepare the Approved Purchaser to begin operating the NSH-BAC Divestment Businesses;

b) Bayer will arrange for transitional IT systems to be provided by a third-party service provider;

c) NSH Divestment Business will require a supply agreement for […] for as long as this active ingredient is patent protected and cannot be sourced from anyone other than Bayer. The initial term of this agreement is […], and shall automatically renew for a […] renewal term, unless the Approved Purchaser terminates the agreement at least […] prior to the end of the initial term. Bayer will supply the Approved Purchaser the active ingredient at variable cost, in priority over other purchasers, and in the quantities demanded by the Approved Purchaser until the expiry of this agreement or the Approved Purchaser decides not to source its requirements from Bayer, whichever is earlier.

181. Transitional supplies or services will be provided by Bayer at variable cost for an initial period of […] after the NSH-BAC Closing. The Approved Purchaser will have the option to renew the term for a further period of […], for a total of up to […] after the NSH-BAC Closing, on each occasion subject to the Commission's approval in consultation with the Monitoring Agency. Any subsequent supplies or services will be based on commercial terms agreed between Bayer and the Approved Purchaser.

Purchasers Requirements

182. Bayer has proposed BASF as the purchaser of the NSH-BAC Divestment Businesses in its remedy proposal. In order to be approved by the Commission as the Approved Purchaser of the NSH-BAC Divestment Businesses, BASF or any other Proposed Purchaser must fulfil the following criteria:

a) the Proposed Purchaser shall be independent of and with no connection whatsoever with the Parties and their Affiliates;

b) the Proposed Purchaser shall have the financial resources, proven expertise and incentive to maintain and develop the NSH-BAC Divestment Businesses as a viable and active competitive force in competition with the Parties and other competitors;

c) The acquisition of the NSH-BAC Divestment Businesses by the Proposed Purchaser must neither be likely to create, in light of the information available to the Commission, *prima facie* competition concerns nor give rise to a risk that the implementation of the Order will be delayed. In particular, the Proposed Purchaser must reasonably be expected to obtain all necessary approvals from the relevant regulatory authorities for the acquisition of the NSH-BAC Divestment Businesses;

d) the Proposed Purchaser must have all required assets and employees to support the NSH-BAC Divestment Businesses, particularly but not exclusively those elements which are not being sold as standalone businesses; and

e) the Proposed Purchaser shall not have any structural or financial links (whether directly or indirectly) with any existing competitor in the market.

(The aforementioned criteria for the purchaser are hereafter referred to as the "**NSH-BAC Purchaser Requirements**").

183. The Approved Purchaser will submit an undertaking to the Commission to make good faith efforts to commercialise the traits acquired pursuant to this divestment in India or alternatively, license the traits to a third party to commercialise the same in India.

No acquisition of influence

184. The Parties shall, for a period of 10 years from the NSH-BAC Closing, not acquire any stake or any direct or indirect influence over the whole or part of the NSH-BAC Divestment Businesses. Bayer shall, for a period of […] from the Effective Date, not acquire any stake or any direct or indirect influence over any other cotton seed business.

SECTION B: VEGETABLE SEEDS DIVESTMENT BUSINESS

185. In order to maintain effective competition, Bayer shall divest globally or procure the divestiture of the Vegetable Seeds Divestment Business by the end of the First Divestiture Period as a going concern in accordance with the Order. The Vegetable Seeds Divestment Business will be sold as a single business and will not be divided.

186. Bayer shall sell the Vegetable Seeds Divestment Business to an Approved Purchaser as a single business, on terms of sale approved by the Commission.

187. The Vegetable Seeds Divestment Business consists of Bayer's global vegetable seeds business, without carve-outs. The Vegetable Seeds Divestment Business, described in more detail in Schedule II, includes all assets and staff that will be required by the Approved Purchaser to continue the current operation or are necessary to ensure the viability and competitiveness of the Vegetable Seeds Divestment Business on a global basis, in particular all:

a) tangible and intangible assets (including intellectual property rights);

b) facilities in the nature of trials farms, production facilities, drying facilities etc. In India, the relevant facilities are as identified as at Annexure A;

c) R&D facilities, pipeline products under development and breeding programs. In India, the relevant R&D and breeding programs are as identified at Annexure B;

d) research and breeding sites. In India, the relevant research and breeding sites are as identified at Annexure C;

e) transferrable licenses, permits and authorizations issued by any governmental organization in respect of the Vegetable Seeds Divestment Business;

f) contracts, leases, commitments and customer orders of the Vegetable Seeds Divestment Business;

g) Bayer's supplier and customer contracts;

h) customer, credit and other records of the Vegetable Seeds Divestment Business; and

i) all personnel currently working in the Vegetable Seeds Divestment Business in India.

Transitional Support

188. In addition, the Vegetable Seeds Divestment Business shall include such transitional support as may be required by the Approved Purchaser, which is necessary to enable the Approved Purchaser to conduct the Vegetable Seeds Divestment Business at least in the same manner as Bayer operated at the time of execution of the Combination Agreement. Bayer will provide all such transitional support as required by the Approved Purchaser and as deemed necessary by the Commission on the recommendation of the Monitoring Agency or the Divestiture Agency, as the case may be.

Purchasers Requirements

189. In order to be approved by the Commission as the Approved Purchaser of the Vegetable Seeds Divestment Business, the Proposed Purchaser must fulfil the following criteria:

a) The Proposed Purchaser shall be independent of and with no connection whatsoever with the Parties and their Affiliates (this being assessed having regard to the situation following the divestiture);

b) The Proposed Purchaser shall have the financial resources, proven expertise and incentive to maintain and develop the Vegetable Seeds Divestment Business as a viable and active competitive force in competition with the Parties and other competitors;

c) The acquisition of the Vegetable Seeds Divestment Business by the Proposed Purchaser must neither likely to create, in light of the information available to the Commission, *prima facie* competition concerns nor give rise to a risk that the implementation of the Order will be delayed. In particular, the Proposed Purchaser must reasonably be expected to obtain all necessary approvals from the relevant regulatory authorities for the acquisition of the Vegetable Seeds Divestment Business;

d) The Proposed Purchaser must have all required assets and employees to support the Vegetable Seeds Divestment Business, particularly but not exclusively those elements which are not being sold as standalone businesses; and

e) The Proposed Purchaser shall not have any structural or financial links (whether directly or indirectly) with any existing competitor in the market.

(The aforementioned criteria for the purchaser are hereafter referred to as the "**Vegetable Seeds Purchaser Requirements**").

No acquisition of influence

190. The Parties shall, for a period of 10 years from the Vegetable Seeds Closing, not acquire any stake or any direct or indirect influence over the whole or part of the Vegetable Seeds Divestment Business.

SECTION C: MAHYCO DIVESTMENT

191. Bayer shall divest or procure, through Monsanto, divestment of Mahyco Divestment Assets, by the end of the First Divestiture Period, in accordance with the Order.

192. With effect from the Mahyco Closing, the Parties will not have any Director on the Board of Mahyco, will have no shareholder or other special rights in Mahyco and will have no mechanisms to directly or indirectly influence the operations/business of Mahyco in any form.

Mahyco Purchaser Requirements

193. In order to be approved by the Commission as the Approved Purchaser of the Mahyco Divestment, the purchaser proposed by Bayer must fulfil the following criteria:

a) Be independent of and unconnected to Bayer and Monsanto;

b) Not be either a past or present employee or Director on the Board of Directors of Bayer or Monsanto or their Affiliates (or spouse or child of such employee or director);

c) Have the financial resources, expertise and incentive to purchase Monsanto's shareholding in Mahyco;

d) Not have any structural or financial links, whether directly or indirectly, with the Parties or their Affiliates;

e) Not likely to create, in light of the information available to the Commission *prima facie* competition concerns, nor give rise to a risk that the implementation of the Order will be delayed;

f) Be expected to obtain all necessary approvals from the relevant regulatory authorities for the acquisition of Mahyco Divestment Assets.

However, if the Proposed Purchaser is the Barwale Shareholders Group, then conditions (a), (b) and (d) above shall not apply[3].

(The aforementioned criteria for the purchaser are hereafter referred to as the "**Mahyco Purchaser Requirements**").

No acquisition of influence

194. The Parties shall, for a period of 10 years from the Mahyco Closing, not acquire, directly or indirectly, any stake or the possibility of exercising an influence (by way of shareholding, change in the charter documents to by exercising affirmative rights or the rights to appoint a Director on the board of Mahyco or otherwise) over the whole or part of the Mahyco Divestment Assets.

[3] In this relation, Bayer in its amendment to the Proposal for Modification dated 16.05.2018 has submitted that the Articles of Association of Mahyco mandate Monsanto to offer the shares held in Mahyco to the Barwale Shareholders Group prior to making an offer to any other party. Further, MMBL is a 50-50 joint venture between Mahyco and MIIPL (a wholly owned subsidiary of Monsanto), and thus an 'affiliate' of Monsanto. Mahyco also appoints directors on the Board of MMBL. Therefore, Bayer has submitted that the purchaser requirements as mentioned in para (a), (b) and (d), if made applicable to the Barwale Shareholders Group, would result in disqualification of the Barwale Shareholders Group from acquiring the Mahyco Divestment Assets. In view of this, Bayer proposed to amend the Mahyco Purchaser Requirements so far they relate to Barwale Shareholders Group. The Commission considered the said amendment and decided to accept the same as it did not change the intended effect of the modification.

SECTION D: OTHER MODIFICATIONS

195. Bayer to be bound by following commitments for a period of 7 (seven) years from the closing of the Proposed Combination.

I. Broad Licensing policy on a Fair, Reasonable and Non-Discriminatory Basis

Trait Licensing Policy

196. Bayer undertake that the Combined Entity will follow a policy of broad based, non-exclusive licensing of GM as well as non-GM traits currently commercialized in India or to be introduced by the Parties into India in the future, on a fair, reasonable and non-discriminatory basis to Licensee.

197. Each such license once granted will take effect from the date of the license agreement and will continue as per the mutually agreed time period unless terminated by the Licensee or Bayer in case of a material breach of the license agreement by the Licensee.

Non-Selective Herbicide / Active Ingredient Licensing Policy

198. Bayer undertake that the Combined Entity will adopt a policy of non-exclusive licensing of non-selective herbicides or their active ingredients in the case of launch of the GM/non-GM trait in India that restrict agricultural producers including farmers to use specific non-selective herbicide(s) being supplied only by the Parties, on a fair, reasonable and non-discriminatory basis to a Licensees.

199. Such license, once granted, will take effect from the date of the license agreement and will continue as per the mutually agreed time period unless terminated by the Licensee or Bayer in case of a material breach of the license agreement by the Licensee.

Access to Digital Platforms

200. Bayer undertakes that the Combined Entity will, on fair, reasonable, and non-discriminatory terms, grant access through non-exclusive, non-transferrable, non-sublicensable, royalty bearing licenses, to:

a. existing[4] Indian agro-climatic data (soil, climate, environmental, weather, moisture data, growing degree day and temperature data) that is both owned by the Combined Entity and used for the Combined Entity's Digital Farming Product(s) or Digital Farming Platform(s) which are commercialized in India to potential Licensees who approach the Combined Entity;

b. connect to the Combined Entity's commercialized Digital Farming Platform(s) in India for supplying/selling agricultural inputs: crop protection products, seeds, agricultural machinery/equipment and supplying solutions/services connected thereto through their Digital Farming Products and/or digital applications to agricultural producers in India, including farmers, to potential Licensees. This is applicable only if the Combined Entity supplies/sells agricultural inputs: crop protection products, seeds, agricultural machinery/equipment and supplying solutions/services connected thereto through its Digital Farming Products on its commercialized Digital Farming Platform in India;

c. Indian users for subscription to the Combined Entity's Digital Farming Product(s) and Digital Farming Platform(s) which are commercialized in India.

201. This commitment will operate for a period of 7 years from the commencement of commercialization of Digital Farming Product(s) or Digital Farming Platform(s), subject to a total period of 10 years from the closing of the Proposed Combination.

[4] "Existing" includes any data that will be collected during the time of the commitments.

202. Bayer undertakes that for a period of 7 years from the closing of the Proposed Combination, the Combined Entity will grant access to Indian agro-climatic data (soil, climate, environmental, weather, moisture data, growing degree day and temperature data), that is both owned and/or collected[5] by the Combined Entity in India and used or intended to be used for the Combined Entity's Digital Farming Product(s) or Digital Farming Platform in India, free of charge to Government of India institution(s) to be used exclusively by the Government of India institution(s) for creating a public good in India.

203. Such license(s) to potential Licensees, once granted, will take effect from the date of the licensing agreement and will continue as per mutually agreed time period unless terminated by the Licensee; or by the Combined Entity or by Bayer in case of a material breach of the license agreement by the Licensee. None of the licensing agreements entered into pursuant to this commitment will remain valid after a 10 year-period following the closing of the Proposed Combination, unless expressly agreed by the Combined Entity.

204. Additionally, when approached, the Combined Entity would facilitate potential Licensees intending to enter into licensing agreements with third party data providers by disclosing only the name and contact details of such third party data provider that is being used by the Combined Entity to source agro-climatic data for the Combined Entity's Digital Farming Product(s) that are commercialized in India as long as the Combined Entity is not prohibited from making such disclosure due to a confidentiality agreement with the third party data provider. In no event would the Combined Entity be asked or required to disclose the commercial terms of its agreements with third parties.

205. The Combined Entity shall not be required to provide recommendations for any third-party products. Also, any data required in connection with third-party products shall be provided by the third party at its sole cost.

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[5] "Collected" herein means agro-climatic data (soil, climate, environmental, weather, moisture data, growing degree day and temperature data) that is collected from growers in India by the Combined Entity.

206. In no event should the digital farming commitment be interpreted as granting access to the technology or source code that support the functioning of the Digital Farming Platform(s) or Digital Farming Product(s) of the Combined Entity, nor could this digital farming commitment be interpreted as granting access to data that is collected from and owned by growers without such growers' express consent.

207. Contact details of Bayer, to be used by a Licensee shall be advertised on the Indian websites of the Parties in an easily visible position in respect of Section D of the Modification to the Proposed Combination

Mandatory offer of such better terms to all existing licensees, which are offered to a new licensee

208. The terms and conditions of access to Bayer or Monsanto's Bt. cotton technology or other GM/non-GM trait or technology in India, post-closing, shall be on terms, which are equitable with those already offered by either Party to its existing licensees under these commitments.

209. In the event better commercial terms of license are offered to a new licensee, such similar terms of license shall be offered to all existing licensees within a period of 60 days from the date of the execution of the license agreement with the new licensee, which has been offered such better terms of license.

II. The Commitment not to Bundle any of its Products

210. Bayer undertake that the Combined Entity will not offer its clients, farmers, distribution channels and/or its commercial partners, two or more products as bundle which may potentially have the effect of exclusion of any competitor.

III. The Commitment on Maintaining Non-Exclusive Distribution Channels

211. Bayer undertake that the Combined Entity will not impose, directly or indirectly, commercial dealings capable of causing exclusivity in the sales channel for supply of agricultural products.

Other conditions of Modifications

212. Bayer shall file an undertaking to comply with the aforesaid commitments within 15 days from the Effective Date.

213. Bayer to submit a certificate to the Commission, through the Monitoring Agency, within 10 days after the end of every 6 months during the duration of this commitment, confirming that it is in compliance with the aforesaid commitments.

214. The purpose of the above licensing is to maintain and restore effective competition in the market by strengthening the agricultural input suppliers in India who will be able to innovate and launch new products for the benefit of the farmers and produce effective competitive constraints for the Combined Entity. Further, this remedy will reduce the negative effects of the Proposed Combination for competition in the agricultural inputs supply market.

215. The Commission reserves the right to issue necessary directions to the Parties for effective implementation of remedies provided by this Section.

Reporting

216. Bayer undertake to notify the Commission, through the Monitoring Agency, of any refusal to license/grant access to an interested third party or any delay in the signing of the licensing/access agreement for more than 90 days from the formal request for licensing/access from a third party. The notification must be sent within 30 (thirty) days,

in writing and with due justification of refusal or delay. A Licensee may also approach the Commission after expiry of these timelines.

SECTION E: RELATED COMMITMENTS

Divestiture during the First Divestiture Period

217. The Parties shall Divest or procure the Divestiture of the Divestment Businesses within the First Divestiture Period, absolutely and in good faith, to the Approved Purchaser(s), pursuant to and in accordance with the Approved Sale and Purchase Agreement(s).

218. The Divestiture(s) shall not be given effect to unless and until the Commission has approved (i) the terms of final and binding sale and purchase agreement(s) (including transitional support agreements, if any, to be entered into by Bayer and the Approved Purchaser); and (ii) the purchaser(s) proposed by Bayer *i.e.* the Proposed Purchaser(s).

219. Bayer shall execute the Approved Sale and Purchase Agreement with the Approved Purchaser(s) within […] of the Effective Date.

220. Pursuant to execution of the Approved Sale and Purchase Agreement(s), the Parties shall ensure that the Closing takes place within the First Divestiture Period. The Parties may close the Proposed Combination at any time after issuance of the conditional approval by the Commission, including communication under regulation 28(5) of the Combination Regulations.

221. The Divestiture Businesses shall include the elements set out in paragraphs 178-181, 187-188 and 191 and more specifically defined in the Schedules annexed herewith.

222. Bayer is permitted to sell such other additional asset(s)/product(s) that Bayer and the Approved Purchaser(s) may agree in the context of the Divestiture.

Preservation of Economic Viability, Marketability and Competitiveness

223. From the Effective Date and until the NSH-BAC Closing and the Vegetable Seed Closing (as applicable), Bayer shall take such steps as are necessary to preserve or procure the preservation of the economic viability, marketability and competitiveness of the Divestment Businesses, in accordance with good business practice and shall minimize the risk of loss of competitive potential of Divestment Businesses and shall prevent the destruction, removal, wasting, deterioration, sale, disposition, transfer (including creation of encumbrance) or impairment of the assets related to the Divestment Businesses, except as would occur in the ordinary course of business.

224. From the Effective Date and until the NSH-BAC Closing and the Vegetable Seed Closing (as applicable), Bayer shall maintain or procure the maintenance of the operations of the Divestment Businesses at least as they are currently operated (including efforts to generate new business) consistent with the practices of the Divestment Businesses and the Parties' business, capital and strategic plans, in place on the date of the Combination Agreement. Bayer shall use its or procure the usage of best efforts to preserve the existing relationships with suppliers, vendors, customers, agencies, and other third parties having business related to the Divestment Businesses.

225. Further, Bayer shall perform or procure the performance of (i) all maintenance to, and replacements of, the assets of the Divestment Business in the ordinary course of business, in accordance with past practice, and Parties' business, capital, and strategic plans in place on the date of execution of the Combination Agreement; and (ii) carry on such capital projects, physical plant improvements, and business plans as are already under way or planned, including, but not limited to, existing or planned renovation and expansion projects, in accordance with Parties' business, capital, and strategic plans in place on the date of execution of the Combination Agreement.

226. From the Effective Date and until the NSH-BAC Closing and the Vegetable Seed Closing (as applicable), Bayer shall make available, or procure to make available, sufficient

resources for the development of the Divestment Businesses, on the basis and continuation of the existing business plans.

227. Bayer shall take all reasonable steps, or procure that all reasonable steps are being taken, including appropriate incentive schemes (based on industry practice), to encourage all Key Personnel, if there are any, to continue his or her position consistent with the past practices and/or as may be necessary to maintain the marketability, viability and competitiveness of the Divestment Businesses. Such incentives shall include a continuation of all employee benefits, including regularly scheduled raises, bonuses, and additional incentives as may be necessary to assure the continuation, and prevent any diminution, of the viability, marketability, and competitiveness of the Divestment Businesses.

228. Bayer shall remove or procure removal of any impediments that may deter Key Personnel, if there are any, from accepting employment with Approved Purchaser(s), as applicable, including, but not limited to any non-compete or confidentiality provision of the employment or other contracts with the Key Personnel that would affect the ability of the Key Personnel to be employed by the Approved Purchaser, as applicable.

229. In exceptional circumstances, if any member of Key Personnel terminates his or her employment with the Parties prior to the NSH-BAC Closing and the Vegetable Seed Closing (as applicable), Bayer shall provide to the Monitoring Agency a reasoned proposal to replace such member of Key Personnel with the replacement who is well suited to carry out the functions of the said member of Key Personnel.

Hold-separate obligations

230. Bayer shall, until the NSH-BAC Closing and the Vegetable Seed Closing (as applicable), keep or procure the keeping of the Divestment Businesses separate from the businesses that the Parties will be retaining and to ensure that: (i) management and staff of the business retained by the Parties have no involvement in the Divestment Businesses; and

(ii) the Key Personnel and Personnel of the Divestment Businesses have no involvement in any business retained by the Parties and do not report to any individual outside the Divestment Businesses.

231. Until the NSH-BAC Closing and the Vegetable Seed Closing (as applicable), Bayer shall assist or procure assistance to the Monitoring Agency in ensuring that the Divestment Businesses are managed as a distinct and saleable entity separate from the business retained by the Parties. Within seven days of the receipt of the Order, Bayer shall appoint Hold Separate Manager(s) for the Divestment Businesses, who shall manage Divestment Businesses independently and in the best interest of the business with a view to ensure its continued economic viability, marketability and competitiveness and its independence from the businesses retained by the Parties. The Hold Separate Manager(s) shall closely cooperate with and report exclusively to the Monitoring Agency and, if applicable, the Divestiture Agency. Any replacement of the Hold Separate Manager(s) shall be subject to the approval of the Commission.

232. The purpose of the hold separate obligations is to (a) preserve the Divestment Businesses as a viable, competitive and on-going business, independent of the Parties until the NSH-BAC Closing and the Vegetable Seed Closing (as applicable); (ii) assure that no Confidential Information is exchanged between the Parties and the Divestment Businesses, except as otherwise provided in the Order; and (iii) prevent interim harm to competition in the relevant market pending Divestiture.

233. Until the Mahyco Closing, Bayer shall procure that:

Monsanto's participation in Mahyco's shareholders meetings

i. Monsanto's nominees may attend Mahyco shareholder meetings to ensure quorum is available to enable Mahyco to hold its shareholder meetings as per law;

ii. Monsanto, shall, within 7 working days from the Effective Date provide an undertaking that with effect from the Effective Date it will abstain from voting on all matters (including Shareholder AVI Matters […] (forming a Shareholder AVI Matter); and

iii. The Monsanto authorized person who will attend shareholders' meetings held after the Effective Date, will give an affidavit that no Confidential Information obtained pursuant to participation in a shareholders meeting held after the Effective Date, has been/ will be disclosed to the Combined Entity. This would be given within 7 working days of such shareholder meeting.

Monsanto's participation in Mahyco's board meetings

i. Monsanto shall, within 7 working days from the Effective Date, provide an undertaking that […] directors nominated by Monsanto have submitted their resignations to resign from Mahyco's board;

ii. Monsanto nominated director shall be entitled to participate in board meetings since presence of […] director nominated by Monsanto is required for forming a quorum;

iii. Monsanto shall, within 7 working days from the Effective Date, provide an undertaking that with effect from the Effective Date, it will abstain from voting on all resolutions placed before Mahyco's board, including on Board AVI Matters; and

iv. The Monsanto nominated director will give an affidavit, that no Confidential Information obtained pursuant to participation in a Board meeting held after the Effective Date, has been/ will be disclosed to the Combined Entity. This would be given within 7 working days of such board meeting.

Ring-fencing

234. Bayer shall implement or procure to implement, all necessary measures to ensure that Parties does not, after the Effective Date, obtain any Confidential Information relating to the Divestment Businesses and that any such Confidential Information obtained by the Parties before the Effective Date will be eliminated and not be used by them and/or their Affiliates. The Parties shall also ensure that the participation of the Divestment Businesses in the central information technology network will be discontinued to the extent possible, provided however, such discontinuation should not affect the viability and competitiveness of Divestment Businesses. The employees of the Parties who provide support to the Divestment Businesses shall retain and maintain Confidential Information as confidential and except as permitted under the Order, shall not provide, discuss, exchange, circulate, or otherwise furnish any such information to or with any person whose employment involves the business retained by the Parties. Such employees shall also execute agreement(s) prohibiting disclosure of Confidential Information. Nothing contained in this paragraph shall be applicable to any Confidential Information in relation to Mahyco up to Mahyco Closing, at which time such information shall be either destroyed or returned to Mahyco's Approved Purchaser.

235. Bayer may obtain or keep information relating to the Divestment Businesses, which is reasonably necessary for the Divestiture, or the disclosure of which is required by law or which is reasonably required by Bayer to comply with their financial reporting or other legal obligations (including in relation to tax filings).

Non-solicitation clause

236. The Parties shall not, and procure that their Affiliates do not employ, or make offers of employment to, any member of Key Personnel, transferred with the Divestment Businesses for a period of […] after Closing (as applicable), unless the employment of such member of Key Personnel has been terminated by the Approved Purchaser(s).

Due diligence

237. In order to enable potential purchasers to carry out a reasonable due diligence of the Divestment Businesses, the Parties shall, subject to customary confidentiality assurances and dependent on the stage of the Divestiture process provide to potential purchaser(s) sufficient information (i) as regards the Divestment Businesses; and/or (ii) relating to the Key Personnel and Personnel, and allow them reasonable access to the Key Personnel and Personnel.

Reporting

238. Bayer shall submit written reports on the Divestiture process to the Monitoring Agency no later than seven days after the end of every month following the Effective Date (or otherwise at the Monitoring Agency's request), including details relating to potential purchasers of the Divestment Businesses along with developments in the negotiations with such potential purchasers, and on the status of Divestiture. The Parties shall submit a list of all potential purchasers which have expressed interest in acquiring the Divestment Businesses to the Monitoring Agency at each stage of the Divestiture process, as well as a copy of all offers made by such potential purchasers within five days of their receipt.

239. The Parties shall keep the Monitoring Agency informed about the Divestiture process, in particular, on preparation of the data room documentation and the due diligence procedure and shall submit copies of any information memorandum and/or similar documents to the Monitoring Agency.

Approval of Sale and Purchase Agreement and Purchaser

240. The final binding sale and purchase agreement (as well as ancillary agreements including transitional agreement(s)), relating to the Divestiture of the Divestment Businesses shall be conditional on the Commission's approval. Within a period of […] from the Effective Date, Bayer shall submit a fully documented and reasoned proposal, including a copy of

the final agreement(s), to the Commission and the Monitoring Agency. Bayer must demonstrate to the Commission that each of the Proposed Purchaser, fulfils the Purchaser Requirements (NSH-BAC Purchaser Requirements or Vegetable Seeds Purchaser Requirements or Mahyco Purchaser Requirements, as the case may be) and that the Divestment Businesses are being divested in a manner consistent with the Order.

241. The Commission may approve the Divestiture of the Divestment Businesses without one or more Assets, or by substituting one or more Assets or Personnel with one or more different assets or personnel, if this does not affect the viability and competitiveness of the Divestment Businesses after the Divestiture, taking account of the requirement of the Approved Purchaser(s).

Monitoring Agency

242. The Commission shall, under Regulation 27 of the Combination Regulations, appoint an independent agency as Monitoring Agency for the purpose of, *inter alia,* supervision of the modifications provided in the Order, as far as they relate and impact business operations in India, and ensure that each of the Bayer and Monsanto are in compliance with the Order.

243. The Monitoring Agency shall undertake such functions as may be directed by the Commission, which shall include, *inter alia,* the following functions:

1. propose in its first report to the Commission a detailed work plan describing how it intends to monitor compliance with the obligations and conditions attached to the Order;

2. overseeing the on-going management of the Divestment Businesses with a view to ensuring its continued economic viability, marketability and competitiveness and monitoring compliance by the Parties with the modification to the Proposed Combination provided in the Order. To that end, the Monitoring Agency shall:

a. monitor the preservation of the economic viability, marketability and competitiveness of the Divestment Businesses, and the holding separate of the Divestment Businesses from the business retained by the Parties;

b. supervise the management of the Divestment Businesses as distinct and saleable entity;

c. with respect to Confidential Information:

- determine all necessary measures to ensure that the Parties do not after the Effective Date obtain any Confidential Information relating to the Divestment Businesses;

- in particular strive for the severing of the Divestment Businesses' participation in a central information technology network to the extent possible, without compromising the viability of the Divestment Businesses;

- strive to ensure that any Confidential Information relating to the Divestment Businesses obtained by the Parties before the Effective Date is eliminated and will not be used by the Parties; and

- decide whether such information may be disclosed to or kept by the Parties as the disclosure is reasonably necessary to allow the Parties to carry out the Divestiture or as the disclosure is required by law;

d. monitor the splitting of assets and the allocation of Personnel between the Divestment Businesses and the Parties and/or their Affiliates;

e. propose to Parties such measures as the Monitoring Agency considers necessary to ensure Parties' compliance with the Order, in particular the maintenance of the full economic viability, marketability or competitiveness of the Divestment Businesses, the holding separate of the Divestment Businesses and the non-disclosure of Confidential Information, including but not limited to commercially sensitive information;

f. review and assess the replacement of the member of Key Personnel, if there are any, who has terminated his or her employment with the Parties and provide its recommendation regarding the suitability of such replacement to the Commission;

3. review and assess potential purchasers as well as the progress of the Divestiture process and verify that at each stage of the Divestiture process, potential purchasers receive sufficient information relating to the Divestment Businesses in particular by reviewing the relevant data room documentation, information memorandum and due diligence process and that the potential purchasers are granted reasonable access to the Personnel;

4. act as a contact point for any requests by Third Parties, in particular potential purchasers, in relation to the Order;

5. monitor compliance by the Parties with the conditions and obligations provided in Section D;

6. submit to the Commission a written report within

   a) ten days after the end of every month which shall cover the operation and management of the Divestment Businesses and the progress of the Divestiture process as well as potential purchasers;

   b) twenty days after the end of every 6 months on compliance by the Parties with the conditions and obligations provided in Section D. The report shall cover the developments in negotiations with potential Licensees so that the Commission can assess whether the Parties are in compliance with their obligations under these Commitments; and

c) fifteen days after receipt of the intimation from Bayer of any refusal to license/grant access to an interested third party or any delay in the signing of the licensing/access agreement for more than 90 days from the formal request for licensing/access from a third party. The report shall cover the professional opinion of the Monitoring Agency as to whether the refusal or the delay amounts to non-compliance of the conditions and obligations provided in Section D by the Parties and the reasons thereof.

A non-confidential copy of the said report will be provided to Bayer;

7. the Monitoring Agency shall report immediately in writing to the Commission of any failure on part of the Parties to comply with the Order;

8. within one week after receipt of the documented proposal referred to in paragraph 240 above, submit to the Commission a written report containing its recommendations as regards (a) the suitability of the Proposed Purchaser(s); and (b) whether the Divestiture is being carried in accordance with the Order, in particular, if relevant, whether the sale of the Divestment Businesses without one or more Assets or not all of the Personnel affects the viability of the Divestment Businesses after the sale, taking account of the potential purchasers;

9. assume the other functions assigned to the Monitoring Agency under the Monitoring Agency Agreement or by the Commission; and

10. select, with the approval of the Commission, at Bayer's sole cost, either an Indian Government institution, an Indian research institute, an Indian agricultural university or up to a maximum of 5 independent Indian expert(s) to assist the Monitoring

Agency by providing their technical expertise. The role of this appointee would be to assist the Monitoring Agency in carrying out the following functions:

a. Monitoring the compliance by the Parties or their Affiliates of the obligation mentioned in Section D;

b. Assessment of technical terms and conditions including the technical scope of the license;

c. Assessment of whether the license is being granted on FRAND terms; and

d. any other technical assistance that the Monitoring Agency may require to carry out its functions in relation to 10 (a) (b) and (c) above.

244. Monitoring Agency will coordinate its activities, to the extent possible, with the monitoring trustee appointed by the European Commission in respect of NSH-BAC Divestment Businesses and Vegetable Seeds Divestment Business but shall not be bound by the directions of the monitoring trustee appointed by the European Commission.

245. A copy of the Monitoring Agency Agreement shall be provided to Bayer and the Parties shall use their best efforts to facilitate the Monitoring Agency in performance of its duties and obligations provided in the Monitoring Agency Agreement. Any failure by the Parties in such facilitation may be deemed to be a contravention of the Order.

Divestiture Agency

246. If the Closing has not taken place as specified in paragraph 217 of this Modification to the Proposed Combination, the Commission shall appoint a Divestiture Agency to Divest the Divestment Businesses.

247. The appointment of the Divestiture Agency shall take effect from commencement of Second Divestiture Period or the day of its appointment, whichever is later.

248. Upon receipt of the notice of the Commission regarding the appointment of Divestiture Agency, the Parties must execute or procure their Affiliates to execute, within the period prescribed by the Commission, a comprehensive power of attorney in favour of the Divestiture Agency to effect the sale of Divestment Businesses (including Closing) and all actions and declarations which the Divestiture Agency considers necessary or appropriate for achieving the sale of Divestment Businesses (including Closing), including the power to appoint advisors to assist with the sale process. The power of attorney shall include the authority to grant sub-powers. During the Second Divestiture Period, the Divestiture Agency shall have the sole authority to sell the Divestment Businesses at no minimum price to the Approved Purchaser(s). Upon request of the Divestiture Agency, the Parties shall cause the documents required for effecting the sale and the Closing to be executed.

249. The Divestiture shall not be effected by the Divestiture Agency unless and until the Commission has approved the terms of sale and purchase agreement (including any ancillary agreement) and the purchaser proposed by the Divestiture Agency.

250. If the Monitoring Agency and the Divestiture Agency are not the same legal or natural persons, the Monitoring Agency and the Divestiture Agency shall cooperate with each other during the Second Divestiture Period in order to facilitate each other’s tasks.

251. A copy of the Divestiture Agency Agreement shall be provided to Bayer and the Parties shall use their best efforts to facilitate the Divestiture Agency in performance of its duties and obligations provided in the Divestiture Agency Agreement. Any failure by the Parties in such facilitation may be deemed to be a contravention of the Order.

Sale of Divestment Businesses within Second Divestiture Period

252. Within the Second Divestiture Period, the Divestiture Agency shall divest at no minimum price the Divestment Businesses, to the Approved Purchaser(s).

253. The Divestiture Agency shall have the discretion as to the manner in which it sells the Divestment Businesses. The Divestiture Agency shall include in the sale and purchase agreement, or other disposal arrangement, (as well as in any ancillary agreements) (a) such terms and conditions as it considers appropriate for an expedient sale in the Second Divestiture Period; and (b) such customary representations and warranties and indemnities as are reasonably required to effect the sale. The Divestiture Agency shall protect the legitimate financial interests of the Parties, subject to the Parties' unconditional obligation to divest at no minimum price in the Second Divestiture Period.

254. During the Second Divestiture Period, the Divestiture Agency shall provide the Commission with a comprehensive monthly (or otherwise at the Commission's request) report on the progress of the Divestiture process. The monthly reports shall be submitted within ten days after the end of every month with a simultaneous copy to the Monitoring Agency and a non-confidential copy to Bayer.

255. Divestiture Agency will coordinate its activities, to the extent possible, with the monitoring trustee appointed by the European Commission in respect of NSH-BAC Divestment Businesses and Vegetable Seeds Divestment Business but shall not be bound by the directions of the divestiture trustee appointed by the European Commission. Further, the Divestiture Agency shall not be prevented from selling the NSH-BAC Divestment Businesses and Vegetable Seeds Divestment Business in India to an entity other than the one chosen by the divestiture trustee in the event, the Divestiture Agency, with the concurrence of the Commission, believes that the sale to the entity chosen by the divestiture trustee appointed by the European Commission is not practicable in India.

Duties and obligations of the Parties

256. The Parties shall provide and shall cause their advisors to provide the Monitoring Agency and Divestiture Agency with such co-operation, assistance and information, including copies of all relevant documents, as the Monitoring Agency and/or Divestiture Agency may reasonably require to perform its tasks, including conditions and obligations provided by Section D. The Monitoring Agency and Divestiture Agency shall have full and complete access to any of the Divestment Businesses' books, records, documents, management or other personnel, facilities, sites and technical information necessary for fulfilling its duties under the Order. The Parties and the Hold Separate Managers shall provide the Monitoring Agency and Divestiture Agency upon request with copies of any document required by the Monitoring Agency or the Divestiture Agency, as the case may be. The Parties shall make available to the Monitoring Agency and Divestiture Agency one or more offices on their premises and shall be available for meetings in order to provide the Monitoring Agency and the Divestiture Agency with all necessary information for the performance of their tasks.

257. The Parties shall provide the Monitoring Agency with the managerial and administrative support that it may reasonably request in relation to the management of the Divestment Businesses. This shall include administrative support functions relating to the Divestment Businesses which are currently carried out at headquarters level. The Parties shall provide and shall cause its advisors to provide the Monitoring Agency, on request, with the information submitted to potential purchasers, in particular give the Monitoring Agency access to the data room documentation and all other information granted to potential purchasers in the due diligence procedure. The Parties shall inform the Monitoring Agency on potential purchasers, submit lists of all potential purchasers at each stage of the selection process, including the offers made by potential purchasers at those stages, and keep the Monitoring Agency informed of all developments in the Divestiture process.

258. The Parties shall indemnify the Monitoring Agency, its employees and agents and Divestiture Agency and its employees and agents (each an "**Indemnified Party**") and hold each Indemnified Party harmless against any liabilities arising directly out of the performance of the Monitoring Agency's duties under the Order, except to the extent that such liabilities result from the wilful default, recklessness, gross negligence or bad faith of the Indemnified Party.

259. The Commission may share confidential information proprietary to the Parties and the Divestment Businesses with the Monitoring Agency and Divestiture Agency, without seeking any approval from the Parties.

260. Prior to the Closing Date, the Parties shall secure all consents and waivers from all Third Parties that are required by the Approved Purchaser(s) in relation to the Divestment Businesses as of the Closing Date. Provided, however, that the Parties may satisfy this requirement by certifying that the Approved Purchaser(s) has, to the Approved Purchaser's satisfaction, either (i) executed such agreements directly with each of the relevant Third Parties, or (ii) secured a similar contract with similar terms from the customers or from supplier(s) supplying such product or service.

261. Bayer shall provide the Monitoring Agency, with copies of all license/data access agreements entered into pursuant to the Order including conditions and obligations provided ion Section D, promptly following the execution and/or disclosure thereof, as applicable, in each case subject to the Monitoring Agency's obligations of professional secrecy.

262. The Commission may at any time request information from the Parties that is reasonably necessary for the effective implementation of the Order.

263. The Parties shall notify the Commission at least thirty days prior to any proposed change in the corporate structure of the Parties that may adversely affect the compliance obligations of the Parties.

264. The Parties shall procure assistance to the Monitoring Agency and/or the Divestiture Agency in respect of coordination from monitoring trustee /divestiture trustee appointed by the European Commission.

265. The Parties shall notify the Commission at least thirty days prior to any proposed change in the corporate structure of the Parties that may adversely affect the compliance obligations of the Parties.

266. All appendices and Schedules annexed to the Order shall form an integral part of the Order.

267. In carrying out the aforesaid modification, the Parties shall comply with the provisions of the Act, the Combination Regulations and the Competition Commission of India (General Regulations), 2009.

268. In case the Parties fail to comply with the modifications, as provided above, the Proposed Combination would be deemed to have caused appreciable adverse effect on competition in India and the concerned parties shall render themselves liable for being proceeded under the relevant provisions of the Act.

269. The Order shall stand revoked, if any time, the information provided by Bayer is found to be incorrect.

270. The information provided by Bayer is confidential at this stage in terms of and subject to provisions of Section 57 of the Act.

271. This approval is without prejudice to the penalty proceedings, which may be initiated against the Acquirer under Section 43A of the Act.

272. The Secretary is directed to communicate to the Acquirer accordingly.

SCHEDULE I

NSH-BAC Divestment Businesses

1. The NSH-BAC Divestment Businesses relevant to India comprises:

(a) Bayer's global broad acre crop seeds and traits business with certain limited carve-outs, namely: hybrid rice in Asia; juncea/mustard,millet and cotton seeds business in India; cotton in South Africa; as well as R&D programmes directed to sugarcane in Brazil and sugar beet in Europe (the **Broad Acre Crop Divestment Businesses**). The crops specifically relevant for India are cotton and corn; and

(b) Bayer's global glufosinate ammonium business (the **NSH Divestment Business**).

Broad Acre Crop Divestment Business

2. Bayer to divest its entire global broad acre crop seeds and traits business, with only limited carve-outs, namely: hybrid rice in Asia; juncea (mustard) and millet in India; cotton in South Africa; as well as R&D programmes directed to sugarcane in Brazil and sugar beet in Europe.

3. The Broad Acre Crop Divestment Businesses include, but are not limited to:

   a. Bayer's global LibertyLink (glufosinate ammonium tolerance) technology / traits business except in rice;

   b. Bayer's global trait business relating to cotton seeds (including but not limited to LibertyLink (including LibertyLink Plus), GlyTol and TwinLink (including TwinLink Plus) or any combination thereof)

c. Bayer’s trait research activities (including both GM and non-GM traits) in cotton, corn, OSR/canola, soybean, its global R&D activities directed to wheat, and its canola-quality juncea research programme worldwide; its GM trait research facilities in Morrisville, North Carolina, USA, its US headquarters and all greenhouse facilities in Research Triangle Park in Raleigh, North Carolina USA, and its trait research facility in Ghent, Belgium;

d. Bayer’s global OSR/canola seeds and traits business;

e. Bayer’s global cotton seeds business (excluding its cotton seeds and traits business in South Africa);

f. Bayer’ global soy bean seeds and traits business; and

g. Bayer’s global corn traits business.

4. For each of the Broad Acre Crop Divestment Businesses, Bayer will transfer to the Approved Purchaser, in particular:

a. all tangible and intangible assets (including intellectual property rights);

b. all transferrable licences (*i.e.*, licences that are legally capable of being transferred to a new owner), permits, and authorisations issued by any governmental organisation for the benefit of the elements of the Broad Acre Crop Divestment Businesses;

c. Bayer will assist the Approved Purchaser with acquiring any non-transferrable licences within […] of the NSH-BAC Closing (subject to complications outside the control of Bayer) and until such time provide the

Approved Purchaser with the ability to benefit from the licence to independently operate the Broad Acre Crop Divestment Business. Bayer will agree a detailed schedule of timing with Monitoring Agency and/or monitoring trustee for assisting the Approved Purchaser with securing non-transferrable licences;

d. all contracts, leases, commitments and customer orders of the elements of the Broad Acre Crop Divestment Businesses;

e. all customer, credit and other records of the elements of the Broad Acre Crop Divestment Businesses;

f. Bayer will arrange for transitional IT systems to be provided by a third-party service provider; and

g. all of the Personnel currently working on the Broad Acre Crop Divestment Businesses will be transferred to the Approved Purchaser.

NSH Divestment Business

5. The NSH Divestment Business comprises Bayer's entire non-selective business, without carve-outs. The NSH Divestment Business includes, but is not limited to:

a) Bayer's entire glufosinate ammonium-based herbicide product portfolio, as well as all current glufosinate ammonium-related development products, comprising more than […] patent families related to specific glufosinate ammonium formulations, mixtures and methods, and all data and support necessary for registrations and all relevant local registrations. In India these are the registrations held by the local legal entity Bayer CropScience Ltd. as Registration Number CIR-31,384/99/(T)-3 for BASTA TK50, and Registration Number CIR- 31,385 / 99 / (SL) -4 for BASTA SL150);

b) four of Bayer’s state-of-the-art facilities in Germany (Frankfurt and Knapsack) and the United States (Mobile and Muskegon), which account for the production of all of Bayer’s glufosinate ammonium worldwide;

c) formulation and packaging capabilities as part of the Muskegon facilities mentioned above and the Regina site, and (for as long as requested by the Approved Purchaser) provided by Bayer through its global formulation and filling network by way of arm’s-length tolling agreements;

d) all of Bayer’s dedicated intellectual property. Shared intellectual property will be allocated to the main user (Bayer or the Divestment Businesses) with licences, or covenants not to assert, put in place to ensure access by the other party. In India, the ‘BASTA’ trademark and […] patents[6] will also be transferred to the Approved Purchaser.

e) all of Bayer’s dedicated supplier contracts. Shared contracts will be split if feasible. Otherwise, Bayer will use its best efforts to assist the Approved Purchaser with the creation of new contracts to be in place immediately post-closing;

f) all of Bayer’s dedicated customer contracts. With respect to shared contracts, Bayer will use its best efforts to assist the Approved Purchaser with the creation of new contracts to be in place immediately post-closing;

g) all transferrable licences (*i.e.*, licences that are legally capable of being transferred to a new owner), permits, and authorisations issued by any governmental organisation for the benefit of the elements of the NSH Divestment Businesses;

[6] The relevant patents being transferred to BASF bear the following applications number: […]

h) Bayer will use its best efforts to assist the Approved Purchaser with acquiring any non-transferable licences within […] of the NSH-BAC Closing (subject to complications outside the control of Bayer) and until such time provide the Approved Purchaser with the ability to benefit from the licence to independently operate the NSH Divestment Business. Bayer will agree a detailed schedule of timing with the Monitoring Agency or the monitoring trustee for assisting the Approved Purchaser with securing non-transferrable licences. If the non-transferrable licences are not acquired within this period, appropriate measures will be agreed with the Monitoring Agency;

i) Bayer will arrange for transitional IT systems to be provided by a third-party service provider; and

j) all of the Personnel currently working on the NSH Divestment Business will be transferred to the Approved Purchaser.

6. NSH Divestment Business will require a supply agreement for […] for as long as this active ingredient is patent protected and cannot be sourced from anyone other than Bayer. The initial term of this agreement is […], and shall automatically renew for a […] renewal term, unless the Approved Purchaser terminates the agreement at least […] prior to the end of the initial term. Bayer will supply the Approved Purchaser the active ingredient at variable cost, in priority over other purchasers, and in the quantities demanded by the Approved Purchaser until the expiry of this agreement or the Approved Purchaser decides not to source its requirements from Bayer, whichever is earlier.

7. Transitional supplies or services will be provided by Bayer at variable cost for an initial period of […]. The Approved Purchaser will have the option to renew the term for a further period of […], for a total of up to […] after the NSH-BAC

Closing, on each occasion subject to the Commission's approval in consultation with the Monitoring Agency. Any subsequent supplies or services will be based on commercial terms agreed between Bayer and the Approved Purchaser.

SCHEDULE II

The Vegetable Seeds Divestment Business

1. The Vegetable Seeds Divestment Business comprises Bayer's entire global vegetable seeds business without carve-outs, including, but not limited to:

    a) all legal entities held by Bayer Vegetable Seeds (**BVS**); in India this will be Bayer Seeds Private Ltd, which is stated to be the dedicated legal entity for Bayer's vegetable business in India;
    b) all research activities/facilities related to vegetable seeds business including pipeline products;
    c) for shared legal entities through which BVS operates, Bayer will either establish a new legal entity and transfer the relevant employees and assets, or transfer the relevant employees and assets to an entity specified by the Approved Purchaser;
    d) all sites and locations (either owned or leased) held by BVS;
    e) sites and locations shared with other parts of Bayer where BVS is the main user;
    f) for shared sites where BVS is not the main user, Bayer will work with the Approved Purchaser to ensure continuity of existing facilities post-closing until the Approved Purchaser can make its own arrangements;
    g) all fixed assets, intangible assets, and goodwill held by BVS;
    h) all employees and all platform employees working on BVS projects will be transferred to the Purchaser;
    i) all BVS products across different life cycles;
    j) Nunhems and HILD brands, including all sub-brands and registered trademarks;
    k) all agreements dedicated to BVS. Shared contracts will be split if feasible. Otherwise, Bayer will use its best efforts to assist the Approved Purchaser with the creation of new contracts to be in place immediately post-closing;
    l) BVS expertise and know-how;

m) all IP held by BVS legal entities (*e.g.* germplasm, markers, cell biology information, traits, patent rights, trademarks, licencing agreements, plant variety protection rights, know-how);

n) Bayer's position in an existing joint venture in China;

o) customer lists and customer records; and

p) all Key Personnel.

2. In addition, the Vegetable Seeds Divestment Business shall include such transitional support as may be required by the Approved Purchaser, which is necessary to enable the Approved Purchaser to conduct the Vegetable Seeds Divestment Business at least in the same manner as Bayer operated at the time of execution of the Combination Agreement. Bayer will provide all such transitional support as required by the Approved Purchaser and as deemed necessary by the Commission on the recommendation of the Monitoring Agency or the Divestiture Agency, as the case may be.

3. If there is any asset or personnel which is not covered by this Schedule but which are both used (exclusively or not) in a part of Vegetable Seeds Divestment Business and are necessary for the continued viability and competitiveness of part of the Vegetable Seeds Divestment Business, that asset, personnel, or an adequate substitute will be offered to the Approved Purchaser.

Annexure A

<u>Facilities</u>

[…]

Annexure B

<u>Breeding programs summary</u>

[...]

Annexure C

R&D Breeding Sites

[…]

Appendix A

Terms used in the Modification to the Proposed Combination

Affiliates	Enterprises controlled by the Parties and/or by the ultimate parents of the Parties, including the ultimate parents, whereby the term “Enterprises” and “Control” shall bear the meaning provided in the Act.
Approved Purchaser(s)	The entity(ies) approved by the Commission as acquirer of the Divestment Businesses in accordance with the criteria set out in paragraph 182, 189 or 193, as the case may be.
Approved Sale and Purchase Agreement(s)	The sale and purchase agreement for sale of NSH-BAC Divestment Businesses or Vegetable Seeds Divestment Business or Mahyco Divestment Assets, as the case may be, which has been duly approved by the Commission.
Assets	the assets that contribute to the current operation or that are necessary to ensure the viability and competitiveness of the Divestment Businesses.
Barwale Shareholders Group	The Barwale Shareholders Group refers to Mr. B.R. Barwale (now deceased), Mr. Raju Barwale, Dr. Usha Barwale Zehr, any individuals and HUF of the Barwale family, Harirani Investment & Trading Private Limited, BR Seeds and Trading Private Limited and Sungro Seeds Private Limited.
BASF	BASF SE with its registered office at Carl-Bosch-Str. 38, 67056, Ludwigshafen, Germany
Board AVI Matters	The matters enlisted in Article 123 of Mahyco’s Articles of Association.
Closing	The transfer of the legal title of the Divestment Businesses to the Approved Purchaser(s)
Closing Date	The date on which Closing takes place.
Combination	The Agreement and Plan of Merger entered into by and

Agreement	between the Parties on 14.09.2016
Combined Entity	The resultant entity, post the consummation of the Proposed Combination of Bayer AG and Monsanto Company
Confidential Information	Any business secrets, know-how, commercial information, or any other Information of a proprietary nature relating to the Divestment Businesses that is not available in public domain.
Digital Farming Product(s)	Software and hardware products offered to third parties on a stand-alone basis in the ordinary course of business that are designed to both: (i) collect and store agronomic, environmental, weather, and operational data for field crops in agriculture in digital form; and (ii) algorithmically model, and allow users to analyse and visualize that data.
Digital Farming Platform(s)	A proprietary data infrastructure related to Digital Farming Product(s) that enables in the ordinary course of business a third party to connect, via application program interfaces "APIs", and transfer agronomic, environmental, weather, and operational data for field crops in agriculture to and from that third party's agricultural software application(s) to and from other Digital Farming Product(s).
Divestiture	Shall mean the sale and transfer of the Divestment Businesses. The words, "divest", "divested", "divesting" and "divestment" shall be interpreted accordingly.
Divestiture Agency	One or more natural or legal person(s), independent from the Parties, which is appointed by the Commission, and which has the duty to Divest the Divestment Businesses during the Second Divestiture Period. The Monitoring Agency may be appointed as the Divestiture Agency by the Commission.
Divestiture Agency Agreement	The agreement executed by and between the Commission and the Divestiture Agency.

Divestment Businesses	The NSH-BAC Divestment Businesses and the Vegetable Seeds Divestment Business and the Mahyco Divestment Assets
Effective Date	The date of the receipt of the Order by Bayer
First Divestiture Period	The period of […] from the Effective Date
Hold Separate Manager	means an individual with experience in the management, sales, marketing, or financial operations of the Divestment Businesses, who is appointed by the Parties to manage the Divestment Businesses till the NSH-BAC Closing and the Vegetable Seed Closing, (as applicable).
Key Personnel	employees who are necessary to maintain the viability and competitiveness of the NSH-BAC Divestment Businesses and Vegetable Seeds Divestment Business, as the case may be.
Licensee	Willing and eligible Indian entity(ies) with whom the Combined Entity post-merger shall be entering into a licensing agreement on fair, reasonable and non-discriminatory basis.
Mahyco	Maharashtra Hybrids Seeds Company Limited, with its registered office at Resham Bhavan, 4th Floor, 78 Veer Nirman Road, Mumbai, Maharashtra - 400020.
Mahyco Closing	The transfer of legal title of all of Monsanto's shareholding in Mahyco to the Approved Purchaser.
Mahyco Divestment Assets	shall mean and include Monsanto Investment India Private Limited's ("MIIPL") entire shareholding in Mahyco along with any rights held therein. MIIPL directly (along with its nominee) holds Class A equity shares carrying voting rights, in Mahyco (constituting 26% of Mahyco's voting share capital). […] Taking into account all […] shares of Mahyco,

	Monsanto's total shareholding is 26% of the share capital of Mahyco.
Monitoring Agency	one or more natural or legal person(s), independent from the Parties, who is appointed by the Commission, and who has the duty to monitor the Parties' compliance with the modifications provided in the Order. The Monitoring Agency may be appointed as the Divestiture Agency by the Commission.
Monitoring Agency Agreement	The agreement executed by and between the Commission and the Monitoring Agency.
NSH-BAC Closing	The transfer to the Approved Purchaser of all legal entities, assets and employees and the entering into licensing and other agreements that are part of the NSH-BAC Divestment Businesses.
NSH-BAC Divestment Businesses	The business assets, licenses, and employees described in Section A and Schedule I above, which Bayer is required to divest
Order	Final order of the Commission approving the Proposed Combination under the relevant provisions of Section 31 of the Act.
Proposed Purchaser(s)	entities proposed by Bayer or the Divestment Trustee to the Commission as purchaser of the Divestment Businesses, prior to their approval by the Commission
Personnel	All staff currently employed in the Divestment Businesses, including but not limited to staff seconded to the Divestment Businesses and shared employees.
Second Divestiture Period	The period of […] from the end of the First Divestiture Period.
Shareholder AVI Matters	The matters enlisted in Article 93 of Mahyco's Articles of Association.

Third Party(ies)	Any entity other than the Parties and the Approved Purchaser(s)
Vegetable Seeds Closing	The transfer to the Approved Purchaser of all legal entities, assets, and employees comprising the Vegetable Seeds Divestment Business
Vegetable Seeds Divestment Business	Bayer's global vegetable seeds business, described in Section B and Schedule II above, which Bayer is required to divest