

**UNITED STATES OF AMERICA
BEFORE FEDERAL TRADE COMMISSION**

_____)	
In the Matter of)	
)	
Bayer AG,)	
a corporation,)	
)	
and)	Docket No. C-4049
)	
Aventis S.A.,)	
a corporation.)	
_____)	

COMPLAINT

Pursuant to the provisions of the Federal Trade Commission Act and of the Clayton Act, and by virtue of the authority vested in it by said Acts, the Federal Trade Commission (the “Commission”), having reason to believe that respondents Bayer AG (“Bayer”), a foreign corporation, and Aventis S.A. (“Aventis”), a foreign corporation, both subject to the jurisdiction of the Commission, have agreed to merge, in violation of Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18, and Section 5 of the Federal Trade Commission Act, as amended, 15 U.S.C. § 45, and it appearing to the Commission that a proceeding in respect thereof would be in the public interest, hereby issues its Complaint, stating its charges as follows:

I. RESPONDENTS

1. Respondent Bayer AG is a German corporation organized, existing, and doing business under, and by virtue of, the laws of Germany, with its office and principal place of business located at Werk Leverkusen, 51368, Leverkusen, Germany. In the United States, Bayer operates its chemical and agricultural business through its subsidiary, Bayer Corporation (“Bayer Corp”), headquartered in Kansas City, Missouri. Bayer is a global chemical and technology company that develops, manufactures, and markets a portfolio of chemical and agricultural products and services that it distributes to customers throughout the world.

2. Respondent Aventis S.A. is a French corporation organized, existing, and doing business under, and by virtue of, the laws of France, with its office and principal place of business

located at Avenue de l'Europe, Espace Europeen de l'Entreprise, Schiltigheim, France. In the United States, Aventis operates its chemical and agricultural business through Aventis CropScience ("ACS"), headquartered in Lyon, France. ACS is a joint venture among its sole shareholders, Aventis, Hoechst AG, and Schering AG. ACS is a global chemical and technology company that develops, manufactures, and markets a portfolio of chemical and agricultural products and services that it distributes to customers throughout the world.

II. JURISDICTION

3. Bayer and Aventis are, and at all times relevant herein have been, engaged in commerce as "commerce" is defined in Section 1 of the Clayton Act, as amended, 15 U.S.C. § 12, and are corporations whose businesses are in or affect commerce as "commerce" is defined in Section 4 of the Federal Trade Commission Act, as amended, 15 U.S.C. § 44.

III. THE PROPOSED TRANSACTION

4. Bayer and Aventis announced on October 2, 2001 that their respective boards of directors approved the sale of all outstanding shares of ACS stock to Bayer pursuant to the October 2, 2001, stock purchase agreements by and between Bayer, Aventis, Hoechst AG, Schering AG, and SCIC Holding, LLC.

IV. VIOLATIONS CHARGED

COUNT ONE: NEW GENERATION CHEMICAL INSECTICIDE ACTIVE INGREDIENTS

5. Paragraphs 1–4 are incorporated by reference as if fully set forth herein.

6. Relevant lines of commerce in which to analyze the effects of the proposed merger are the research, development, manufacture, and sale of new generation chemical insecticide active ingredients and related technologies ("New Generation Chemical Insecticide Active Ingredients") for specific end use applications, including the development, manufacture and sale of insecticides for use as non-repellent termiticides, flea control for companion animals, and for use on an array of crop applications such as corn, cotton, citrus, cole crops, grapes, vegetables, for turf and ornamental uses, and as protection for seeds and seedlings ("seed treatments"). New Generation Chemical Insecticide Active Ingredients are chemical insecticide ingredients that are designed to kill undesirable insects and, in contrast to older chemical insecticides, are less harmful to human health and the environment. Such

insecticide active ingredients include imidacloprid, acetamiprid, thiamethoxam, and other chloronicotinyls (“CNIs”); and fipronil and other phenylpyrazoles (“Pyrazoles”). CNIs and Pyrazoles are primarily used in applications where their characteristics provide significant benefits to the consumer. Those benefits include: reductions in the amount of chemical insecticides used, reduced negative impacts on the environment and human health due to lower usage rates, reduced risk to humans and beneficial insects due to the use of safer chemicals in comparison to older chemical insecticides, and superior control of certain undesirable insects. New Generation Chemical Insecticide Active Ingredients are used to make insecticide products for use on crops, for termite control and for flea control for companion animals, among other applications, as alleged further herein.

7. The related New Generation Chemical Insecticide Active Ingredients technologies include, but are not limited to, patented techniques for the commercial synthesis of New Generation Chemical Insecticide Active Ingredients molecules, patented and proprietary process technology used to manufacture such molecules, and patented formulations for chemical insecticide products based on these technologies.

8. The relevant geographic market and section of the country within which to analyze the likely effects of the proposed transaction is the United States.

9. New Generation Chemical Insecticide Active Ingredients are of increasing importance as the U.S. Environmental Protection Agency (“EPA”) removes older chemical insecticides from the market due to their harmful effects on human health and the environment. The EPA is currently evaluating the use of older chemical pesticides, particularly insecticides. Through this process, the EPA plans to remove or limit the use of a significant number of older chemical pesticides and is encouraging firms to replace older harmful chemicals with less harmful products.

10. As EPA regulation limits or prohibits the use of older chemical insecticides, the demand for New Generation Chemical Insecticide Active Ingredients is increasing because of, among other things, their positive environmental and health benefits as compared to older chemical insecticides, and regulatory preferences for safer chemical insecticides.

11. Competition in research and development of New Generation Chemical Insecticide Active Ingredients has led to innovations including reductions in the cost of insecticides, reduced amounts of chemical insecticides used, development of chemicals with reduced risk of harmful environmental and health impacts due to insecticide exposure, and improved product properties and performance. Consequently, innovation relating to these active ingredients provides substantial benefits to consumers. Firms that discover New Generation Chemical Insecticide Active Ingredients, including respondents, buy and sell rights to develop those molecules into insecticide applications.

12. For these reasons, New Generation Chemical Insecticide Active Ingredients and related technologies constitute relevant product markets and “lines of commerce” within the meaning of the antitrust laws.

13. Bayer is a leading developer and producer of New Generation Chemical Insecticide Active Ingredients and a leading developer, producer, and seller of end-use products based on those insecticides. Bayer competes by, among other things, developing proprietary molecules and products, and has developed proprietary processes for the production of a wide array of active ingredients and chemical insecticide products.

14. ACS is also a leading developer and producer of New Generation Chemical Insecticide Active Ingredients and a leading developer, producer and seller of end-use products based on those ingredients. Like Bayer, ACS competes by developing proprietary molecules and products, and has developed proprietary processes for the production of a wide array of active ingredients and resulting chemical insecticides products.

15. Bayer and ACS are the two leading firms in the development and commercialization of New Generation Chemical Insecticide Active Ingredient technologies and downstream products, and own significant and important intellectual property estates and rights relating to New Generation Chemical Insecticide Active Ingredient technologies.

16. Bayer and ACS developed New Generation Chemical Insecticide Active Ingredients and related technologies after years of analytical work and study of molecules suitable for use in pesticide applications. That work led to the identification of important molecules, techniques for commercial synthesis of those molecules, and the development of insecticide product formulations incorporating New Generation Chemical Insecticide Active Ingredients such as CNIs and Pyrazoles. In this manner, Bayer and ACS competed by, among other things, innovating and developing technology (including patents, trade secrets, and know-how) for use in the production of New Generation Chemical Insecticide Products based on CNI and Pyrazole technologies.

17. The relevant markets for New Generation Chemical Insecticide Active Ingredients are highly concentrated, and would be significantly more concentrated as a result of the merger. Bayer leads the industry in development and production of New Generation Chemical Insecticide Active Ingredients. ACS has the bulk of the remaining development and production. Syngenta is the only other firm with significant development and production of New Generation Chemical Insecticide Active Ingredients.

18. Bayer, ACS, and Syngenta have successfully developed commercial products based on New Generation Chemical Insecticide Active Ingredients for themselves and for other sellers of

insecticides. Other firms have discovered new molecules that might have efficacy as New Generation Chemical Insecticide Active Ingredients. However, Bayer and ACS are distinguished by their ability to, among other things, take new molecules from the discovery phase to the development of production processes for commercial scale synthesis (as opposed to lab scale) of the New Generation Chemical Insecticide Active Ingredients, insecticide formulation, development of insecticide products, and successful marketing of the resulting proprietary insecticide products. Consequently, Bayer and ACS have not only developed their own New Generation Chemical Insecticide Active Ingredients, but have also been licensed by competitors to develop New Generation Chemical Insecticide Active Ingredients based on molecules discovered by other firms, in recognition of Respondents' unique product development and commercialization skills and abilities relating to New Generation Chemical Insecticide Active Ingredients.

19. Entry into New Generation Chemical Insecticide Active Ingredients and related technologies through development and marketing of commercially viable New Generation Chemical Insecticide Active Ingredients is a lengthy process. Developing New Generation Chemical Insecticide Active Ingredients requires years of chemical synthesis; laboratory and greenhouse testing; formulation; process development; pilot production; pilot trials; field trials; testing for acute, subchronic, and chronic toxicity; testing for carcinogenic and genetic effects, and incidences of birth defects that may be associated with the product; environmental toxicology testing; measurement of plant, animal, soil, water, and air residues; testing for degradation of plant, animal, soil, and water environments; data collection; active ingredient registration and EPA review; construction of production facilities; and use optimization. The difficulty and cost associated with EPA registration of active ingredients is enhanced by the fact that a firm must separately register each application in which the active ingredient will be used.

20. The effects of the merger, if consummated, may be to substantially lessen competition and tend to create a monopoly in the New Generation Chemical Insecticide Active Ingredients markets, in violation of Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18, and Section 5 of the FTC Act, as amended, 15 U.S.C. § 45. Specifically, the merger would:

- a. eliminate actual, direct, and substantial competition between Bayer and ACS in the relevant markets;
- b. substantially reduce competition in the markets for New Generation Chemical Insecticide Active Ingredients by giving Respondents significant control of the relevant technology, thereby impeding the ability of other firms to compete with Respondents;
- c. eliminate potential competition between Bayer and ACS in the markets for New Generation Chemical Insecticide Active Ingredients and the technology used in their manufacture;

- d. increase barriers to entry into the relevant markets, including enhancing patent barriers in the relevant markets resulting in increased cost of production and increased prices for chemical insecticides;
- e. reduce innovation competition among developers of the relevant product, including the delay of, or redirection of, research and development projects in chemical insecticide technology, chemical insecticide process technology, and chemical insecticide applications;
- f. substantially increase the level of concentration in the relevant markets and enhance the probability of coordination; and
- g. increase Respondents' ability to exercise market power unilaterally in the relevant markets.

21. The merger described in Paragraph 4, if consummated, would constitute a violation of Section 5 of the FTC Act, as amended, 15 U.S.C. § 45, and Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18.

COUNT TWO: NEW GENERATION CHEMICAL INSECTICIDE PRODUCTS

22. Paragraphs 1–21 are incorporated by reference as if fully set forth herein.

23. Additional relevant lines of commerce in which to analyze the effects of the proposed merger are insecticide products based on New Generation Chemical Insecticide Active Ingredients (“New Generation Chemical Insecticide Products”), including but not limited to (i) crop-specific end uses (including the crops identified in paragraphs 25 and 35 of this complaint); (ii) veterinary channel companion animal flea control products; and (iii) non-repellent liquid termiticides. New Generation Chemical Insecticide Products are essential and cost effective in these applications, among others, and there are no economical substitutes for them in these applications.

24. New Generation Chemical Insecticide Products are of increasing importance as the EPA removes older chemical insecticide products from the market due to their harmful effects on human health and the environment. The EPA is currently evaluating the use of older chemical pesticides, particularly insecticide products. Through this process, the EPA plans to remove or limit the use of a significant number of older chemical pesticide products and is encouraging firms to replace older harmful products with less harmful products.

25. CNIs and Pyrazoles are primarily used in insecticide products where their characteristics provide superior performance, such as non-repellent termiticides, flea control for companion animals, turf and ornamental uses, and an array of crop applications such as corn, cotton, citrus, cole crops, grapes, vegetables, and seed treatments. In such applications they provide benefits including reductions in the amount of chemical insecticides used, reduced negative impacts on the environment and human health due to lower usage rates, reduced risk to humans and beneficial insects due to the use of safer chemicals in comparison to older chemical insecticides, and superior control of certain undesirable insects. Annual U.S. sales of products with these technologies are approximately \$400 million.

26. Competition in research and development of New Generation Chemical Insecticide Products has led to innovations including reductions in the cost of insecticides, reduced amounts of chemical insecticides used, development of products with reduced risk of harmful environmental and health impacts due to insecticide exposure, and improved product properties and performance. Consequently, innovation relating to these products provides substantial benefits to consumers.

27. New Generation Chemical Insecticide Products include separate relevant product markets based on the specific applications in which the New Generation Chemical Insecticide Products are used. The EPA registration process requires that each New Generation Chemical Insecticide Product be registered separately for each application in which it is used. Therefore, only those New Generation Chemical Insecticide Products registered for a particular application can lawfully be used in that application. Suppliers of New Generation Chemical Insecticide Products price their products at different pricing levels dependent upon the specific application in which they are used. Consequently, New Generation Chemical Insecticide Products may constitute application-specific relevant product markets such as: termiticides, flea control for companion animals, specific crops, or for any application in which New Generation Chemical Insecticide Products are used.

28. For these reasons, New Generation Chemical Insecticide Products and specific applications including, but not limited to, crop protection insecticides, non-repellent termiticides, and veterinary channel companion animal flea control products, constitute relevant product markets and “lines of commerce” within the meaning of the antitrust laws.

29. The relevant geographic market and section of the country within which to analyze the likely effects of the proposed transaction is the United States.

30. Bayer is a leading developer and producer of New Generation Chemical Insecticide Products. Bayer competes by, among other things, developing proprietary products for a wide array of chemical insecticide applications.

31. ACS is also a leading developer and producer of New Generation Chemical Insecticide Products. Like Bayer, ACS competes by developing proprietary products for a wide array of chemical insecticide applications.

32. Bayer and ACS are the leading firms in the development and commercialization of New Generation Chemical Insecticide Products, and own significant and important intellectual property estates and rights relating to these products.

33. Bayer and ACS developed New Generation Chemical Insecticide Products after years of product development. That work led to the development of important product formulations incorporating New Generation Chemical Insecticide Active Ingredient technologies such as CNIs and Pyrazoles. In this manner, Bayer and ACS competed by, among other things, innovating and developing new and improved products based on CNI and Pyrazole technologies.

34. The relevant markets for New Generation Chemical Insecticide Products are highly concentrated, and would be significantly more concentrated as a result of the merger. Bayer leads the industry in development, production, and sale of New Generation Chemical Insecticide Products in agricultural and non-agricultural applications. Its products account for the majority of insecticide sales based on New Generation Chemical Insecticide Active Ingredients. ACS has the bulk of the remaining sales. Syngenta is the only other firm with significant sales of insecticides based on New Generation Chemical Insecticide Products with sales of less than 10 percent in the United States.

35. Bayer, ACS, and Syngenta are the only firms producing and selling a range of New Generation Chemical Insecticide Products for a range of agricultural applications, including corn, cotton, citrus, cole crops, grapes, vegetables, and seed treatments. Consequently, the number of competitors in these markets will be reduced from three to two. These markets are highly concentrated and will become more highly concentrated as a result of the merger.

36. Bayer and ACS are the only firms currently selling New Generation Chemical Insecticide Products for non-repellent liquid termiticides. The merger therefore would tend to create a monopoly in this line of commerce.

37. Bayer and ACS are the only firms that have developed and sold successful New Generation Chemical Insecticide Active Ingredients for use in veterinary channel companion animal flea control products. The merger therefore would tend to create a monopoly in this line of commerce.

38. Entry into New Generation Chemical Insecticide Products is a lengthy process. Developing a New Generation Chemical Insecticide Product requires access to a New Generation Chemical Insecticide Active Ingredient. Once a New Generation Chemical Insecticide Active

Ingredient is developed or licensed, the entrant must develop products and complete EPA review with respect to those products. The difficulty and cost associated with EPA registration is enhanced by the fact that a firm must separately register each application in which the product will be used. Finally, after a product is introduced to the market, it may take several years to gain customer acceptance through demonstrated safety, performance, and reliability. Consequently, it would take substantial time and expense for firms to develop New Generation Chemical Insecticide Products that are closely competitive with those of the Respondents, particularly in light of the need to invent around patents controlled by the Respondents.

39. The effects of the merger, if consummated, may be to substantially lessen competition and tend to create a monopoly in each of the relevant markets for New Generation Chemical Insecticide Products in violation of Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18, and Section 5 of the FTC Act, as amended, 15 U.S.C. § 45. Specifically, the merger would:

- a. eliminate actual, direct, and substantial competition between Bayer and ACS in the relevant markets;
- b. eliminate potential competition between Bayer and ACS in the markets for New Generation Chemical Insecticide Products and the markets for specific crop applications;
- c. increase barriers to entry into the relevant markets, including enhancing patent barriers in the relevant markets resulting in increased cost of production and increased prices for chemical insecticides;
- d. reduce innovation competition among developers of the relevant products, including the delay of, or redirection of, research and development projects in chemical insecticide products and chemical insecticide applications;
- e. substantially increase the level of concentration in the relevant markets and enhance the probability of coordination;
- f. increase Respondents' ability to exercise market power unilaterally in the relevant markets.

40. The merger described in Paragraph 4, if consummated, would constitute a violation of Section 5 of the FTC Act, as amended, 15 U.S.C. § 45, and Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18.

COUNT THREE: POST-EMERGENT GRASS HERBICIDES FOR SPRING WHEAT

41. Paragraphs 1–40 are incorporated by reference as if fully set forth herein.

42. Another relevant line of commerce in which to analyze the effects of the proposed merger is the research, development, manufacture, and sale of post-emergent grass herbicides for spring wheat (“Spring Wheat Herbicides”). Herbicides are chemicals designed to kill or control grasses or other weeds that interfere with crop production. Separate relevant markets exist distinguished by the types of weeds, *i.e.*, broadleaf or grass, against which the herbicide is economically effective, and the stage of growth of the wheat crop, *i.e.*, pre-emergent or post-emergent, at which the herbicide is both safe for use on the crop and economically effective against the weeds to be controlled. Spring Wheat Herbicides are essential to economic production of wheat, and there are no economic substitutes for Spring Wheat Herbicides. U.S. sales of Spring Wheat Herbicides totaled over \$73 million in 2001.

43. The relevant geographic market and section of the country within which to analyze the likely effects of the proposed transaction in the market for Spring Wheat Herbicides is the United States.

44. The market for Spring Wheat Herbicides is highly concentrated. ACS’s Puma brand, which contains the active ingredient fenoxaprop, has the highest sales dollars among Spring Wheat Herbicides sold within the United States. In 2001, Puma and ACS’s other herbicides accounted for almost 70 percent of the total sales of Spring Wheat Herbicides. In 2001, Bayer introduced Everest, which contains the active ingredient flucarbazone. In its first year, Everest accounted for approximately 7 percent of Spring Wheat Herbicide sales.

45. Entry into the Spring Wheat Herbicide market can take seven to ten years. A substantial portion of this time is spent researching active molecules, developing promising molecules and product formulations, and implementing the studies required by the EPA to register the formulated products. The research and development activities include greenhouse and field testing of new active ingredients; developing product formulations of active ingredients; and developing production processes. The studies and resulting data required by the EPA for registration include human toxicology studies and environmental toxicology studies, including the measurement of product residues in plants, animals, soil, water, and air. Once a product is introduced to the market, it may take several years to gain customer acceptance through demonstrated safety, performance, and reliability, over a variety of weather conditions.

46. The effects of the merger, if consummated, may be to substantially lessen competition or tend to create a monopoly in the relevant markets in violation of Section 7 of the Clayton Act, as

amended, 15 U.S.C. § 18, and Section 5 of the FTC Act, as amended, 15 U.S.C. § 45. Specifically, the merger would:

- a. eliminate the potential for increased actual, direct, and substantial price competition and cause consumers to pay higher prices for Spring Wheat Herbicides;
- b. increase the merged firm's ability to unilaterally exercise market power in the market for Spring Wheat Herbicides for post-emergent control of grasses, by combining two of the three available substitute products in the market;
- c. increase the likelihood and degree of coordinated interaction between or among competitors in the market for Spring Wheat Herbicides for post-emergent control of grasses.

47. The merger described in Paragraph 4, if consummated, would constitute a violation of Section 5 of the FTC Act, as amended, 15 U.S.C. § 45, and Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18.

COUNT FOUR: COOL WEATHER COTTON DEFOLIANTS

48. Paragraphs 1–47 are incorporated by reference as if fully set forth herein.

49. Another relevant line of commerce in which to assess the effects of the acquisition is Cool Weather Cotton Defoliants. Cotton defoliants are chemical harvest aids designed to remove leaves from cotton plants without drying them, preparing the crop for harvest. Separate markets for cotton harvest aids may be distinguished by method of action, *i.e.*, defoliation versus desiccation, and product efficacy in varying environmental conditions, *i.e.*, cool weather versus warm weather. Cool Weather Cotton Defoliants are essential to economic production of premium grades of cotton and there are no economic substitutes for Cool Weather Cotton Defoliants.

50. The relevant geographic market in which to analyze the effects of the proposed acquisition in the market for Cool Weather Cotton Defoliants is the United States.

51. The relevant market is highly concentrated. Bayer and ACS are the only two suppliers of Cool Weather Cotton Defoliants: Bayer markets DEF and ACS markets Folex. Both products contain the active ingredient Tribufos.

52. Entry into the Cool Weather Cotton Defoliant market would not be likely, timely, and sufficient to prevent anticompetitive effects in the relevant market. Despite the expiration of United States patents for Tribufos, distribution agreements, purchase and supply contracts, and EPA concerns relating to the safety of Tribufos have discouraged entry of generic competition.

53. The effect of the merger, if consummated, may be to lessen substantially competition and tend to create a monopoly in the relevant market in violation of Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18, and Section 5 of the FTC Act, as amended, 15 U.S.C. § 45. Specifically, the merger would:

- a. eliminate actual, direct, and substantial competition between Bayer and ACS in the market for Cool Weather Cotton Defoliant in the United States;
- b. substantially increase the level of concentration;
- c. increase the likelihood that Respondents will unilaterally exercise market power in the market for Cool Weather Cotton Defoliant;
- d. increase barriers to entry; and
- e. increase the likelihood that customers of Cool Weather Cotton Defoliant in the United States will be forced to pay higher prices.

54. The merger agreement described in Paragraph 4 constitutes a violation of Section 5 of the FTC Act, as amended, 15 U.S.C. § 45.

55. The merger described in Paragraph 4, if consummated, would constitute a violation of Section 5 of the FTC Act, as amended, 15 U.S.C. § 45, and Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18.

WHEREFORE, THE PREMISES CONSIDERED, the Federal Trade Commission on this thirtieth day of May, 2002, issues its Complaint against said Respondents.

By the Commission.

SEAL

Donald S. Clark
Secretary