



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

June 8, 2010

Mail Stop 4631

Via U.S. mail

John G. Melo
President and Chief Executive Officer
Amyris Biotechnologies, Inc.
5885 Hollis Street, Suite 100
Emeryville, CA 94608

**Re: Amyris Biotechnologies, Inc.
Registration Statement on Form S-1 Amendment No.1
Filed on: May 25, 2010
File No.: 333-166135**

Dear Mr. Melo:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

General

1. Please note that comments regarding your confidential treatment request will be sent under separate cover.

Convertible Preferred Stock Warrants, page 49

2. Please revise to more specifically discuss why the change in the fair value of the warrants resulted in a gain in the three months ended March 31, 2009 and 2010.

Business, page 68

Production, page 79

3. We note your response and revised disclosure in response to comment 16 of our letter dated May 13, 2010. Please tell us how the pricing of the alternative feedstock options compares to the Brazilian sugarcane, and if material, explain

the anticipated effect the price difference may have on your margins. With respect to the last sentence of your response, please revise your disclosures where applicable to reflect that while you believe your technology may be used with a variety of feedstock, you have currently no specific plans for the commercial use of a feedstock other than sugarcane.

Our Products, page 80

Chemical Products, page 81

4. We note your revised disclosure in response to comment 19 of our letter dated May 13, 2010. Please revise your disclosure to elaborate on whether the product qualification processes represent objective standards which are widely-recognized in the industry, or whether they represent each customer's subjective criteria of product performance.

Transportation Fuels, page 82

5. We are still considering your response to comment 20 of our letter dated May 13, 2010. To whom do you attribute the conclusion set forth in the second sentence of the "Transportation Fuels" subparagraph? Also, clarify whether the independent third party provided certification that you utilize for purposes of marketing your product or business.

Competition, page 84

6. We note your response to comment 23 of our letter dated May 13, 2010. Please consider including a summary of your response in the filing since we believe it represents a more fulsome discussion of management's views about current market conditions and its participants.

Note 9. Convertible Preferred Stock, page F-35

7. We have reviewed your response to our prior comment 29. We note your statement that the terms of the convertible preferred stock require that the conversion price be reduced upon issuance of convertible preferred stock at a price less than the conversion price of outstanding preferred stock series. Given that the per share conversion prices of your Series C and C-1 convertible preferred stock are less than the per share conversion prices of your Series B and B-1 convertible preferred stock, please revise to disclose what consideration you gave to whether a contingent event occurred that required a beneficial conversion feature to be recorded.

13. Stock Based Compensation, page F-40

8. We note your response to our prior comment 13. Please revise to include disclosures similar to the information you provided in your response.

Exhibit 5.1 – Form of Opinion of Fenwick & West LLP

9. Please have counsel revise the opinion to remove the reference to “Selling Stockholders” in the first full paragraph on page 2.
10. We note that counsel has qualified its opinion such that the issuance of stock would be made “in accordance with the resolutions adopted by the Company’s board of directors.” Please describe the board resolutions that counsel is referring to and explain why the opinion of the legality of the issue is so qualified.

* * *

As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact Melinda Hooker, Staff Accountant, at (202) 551-3732 or Tricia Armelin, Senior Staff Accountant, at (202) 551-3747 if you have questions regarding comments on the financial statements and related matters. Please contact Era Anagnosti, Staff Attorney, at (202) 551-3369 or the undersigned at (202) 551-3397 with any other questions.

Sincerely,

Jay E. Ingram
Legal Branch Chief

Mr. John G. Melo
Amyris Biotechnologies, Inc.
June 8, 2010
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cc: Daniel J. Winnike, Esq.
Fenwick & West LLP
via facsimile at (650) 938-5200