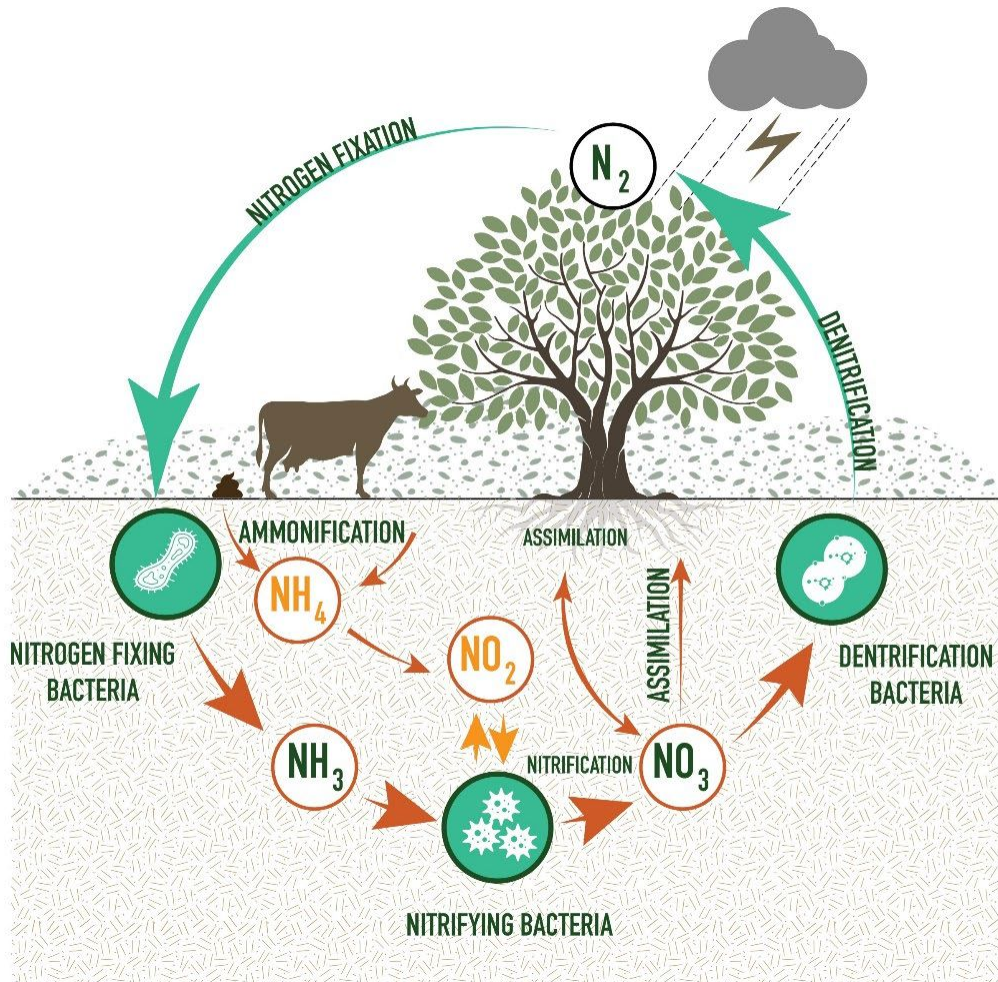


# Roots to Shoots™ Complete Package - Metagenomics Study Proposal

This metagenomics study proposal, designed by  
is created exclusively for use by RhizeBio, Inc.

Created on



RhizeBio is committed to helping you leverage the power of Metagenomics to achieve your research objectives. We've designed our systems, processes, and deliverables to be a complete solution, resulting in actionable knowledge that drives effective decision-making. With a team of Ph.D. level biologists and bioinformaticians, decades of institutional experience, and a commitment to excellence, RhizeBio is fully committed to ensuring your metagenomics project is a success.

wishes to thank for its consideration of our experience, expertise, and commitment to excellence in metagenomics.

\*This proposal is valid for 60 days from issuance.

# 1

## Contact Information

Study Client	
Study Contact:	
Mailing Address:	
City:	
State:	
Postal Code	
Phone:	
Email	

Vendor	RhizeBio
Quote Number:	
Quote Date:	
Expiration:	
Contact:	
Phone:	
Email:	



## Study Objectives

### Roots to Shoots™ Metagenomic Analysis Infield

#### Purpose:

This study seeks to assess changes in microbial community composition and biological potential within the rhizosphere on a single farm following the application of a biological input. Although this proposal outlines a trial conducted on one farm, the methodology can be expanded to include multiple farms, allowing for greater diversity and more statistically robust findings.

#### Study Objectives:

##### Objective 1: Roots to Shoots™ Evaluation

- RhizeBio has developed a method to assess the rhizosphere's biological response to biological inputs. The **Roots to Shoots™ approach** evaluates rhizosphere community structure, nutrient cycling potential, and key microbiome shifts, providing a technical summary of microbial interactions in treated vs. untreated plots.

##### Objective 2: Nutrient Cycling & Soil Health

- This study will integrate **Haney soil health testing, metagenomics, tissue analysis** to assess nutrient cycling efficiency across treatments.

##### Objective 3: Assessing the Impact if Microbiome Alterations on Nutrient Cycling

- By concurrently monitoring shifts in the rhizosphere microbiome, soil nutrient levels, and plant tissue nutrient levels after in-field application of a biological input, the microbiome's contribution to plant nutrient uptake can be effectively quantified.

## Study Design

### Experimental Setup:

- **Farm Location:** Single farm trial\*
- **Plot Size:** Approximately three **1 acre plots with replicated strips\***
- **Crop Type:** Corn\*
- **Treatment Structure:** Treated vs. untreated strip
- **Sampling Strategy:**
  - **Pre-planting:** Bulk soil samples collected in triplicate for greenhouse treated / untreated analysis - V1 - V2 Corn growth.
  - **V5 - V6 stage:** Haney soil health, root metagenomics, and tissue analysis.
    - *6 plants sampled*
  - **V10-V12 stage:** Haney soil health, root metagenomics, and tissue analysis.
    - *4 - 5 plants sampled*
- *All samples will be collected in triplicate following RhizeBio's standard protocol.*
- \*This trial can be adopted to multiple farm trials, designs, and crop types.

## Sampling Protocol

### Purpose:

To collect bulk soil and in-season rhizosphere samples for assessing microbiome responses to biological inputs.

### Sampling Criteria:

1. **Pre Planting: Collect 5 cups of soil (treated and untreated).**
2. **At V5 - V6 stage:** Randomly select **6 plants** (treated and untreated).
3. **At V10 - VT stage:** Randomly select **4 - 5 plants** (treated and untreated).
4. **Use disposable gloves and disinfect digging tools** between treated and untreated samples.

## Bulk Soil Sampling Methodology

1. Ensure each treated and untreated block has consistent soil type and performance.
2. Collect 8 cups of soil from the entire block (collected soil should represent a composite of the soil that will be treated and untreated).

3. Take composite sample, from multiple locations of the block 6 inches deep (15 cm), to create a mixed and homogenized soil sample.
4. Place the soil in a single soil bag. Label the bag with field ID.
5. In a separate bag, place the seed that will be used in the trial. Label the bag with seed identifier.

## Root Microbiome Sampling Methodology

1. **Select plants** from alternating treated and untreated strips.
2. **Uproot plants carefully** using a spade or shovel, ensuring the entire root system is intact.
3. **Shake off excess soil** from the root ball to separate root-associated soil (~2 cups).
4. **Each sample type (bulk soil, roots, and leaves) will have a corresponding sample bag.**
5. **Label each sample bag** with:
  - **Field ID**
  - **Treatment (Treated/Untreated)**
  - **Sample Type (Bulk Soil, Root, or Leaf)**
6. **Ensure at least 2 cups of root-associated soil** is collected from uprooted plants. Additional plants may be sampled to meet this quantity.
7. **Document** field conditions, coordinates, and treatment details using the **RhizeBio Submittal Form**.
8. **At harvest:** Record and compare yield data from treated vs. untreated areas.

## Sample Storage & Shipping Guidelines

### Storage Guidelines:

- **Ship samples as soon as possible** at room temperature. **Do not exceed five days at room temperature.**
- **If storing for 3+ days before shipping:** Refrigerate at **0-6°C (32-48°F)**. **Do not freeze.**
- **If transit exceeds five days:** Use pre-frozen **ice packs** to maintain sample integrity.

### Shipping Instructions:

1. **Ship samples to:**  
**RhizeBio, Inc**

235 Tuckaseege Road, Suite A  
Mount Holly, NC 28120

2. **For assistance, contact:**

- **Support**
  - **Email:** support@rhizebio.com
  - **Phone:** (919) 351-2038

## **Deliverables**

Following laboratory testing, RhizeBio will provide:

- **Comprehensive Study Report**
  - Overview of **nutrient cycling trends, soil health metrics, and microbiome shifts** across treated and untreated areas.
  - **Technical summary** outlining **main pathways** improved, along with corresponding microbiome changes.

**Timeline:**

- **Pre-planting samples** collected at or before planting.
- **In-season sampling (Mid Vegetative & Reproductive)** conducted accordingly.
- **Final report delivered by November 1, 2025.**

## 4

## Study Estimate

Roots to Shoots (Complete Package)						
Group #	SKU	Title	Growth Stage	Price	# Samples	Totals
1	GH-01	Rhize Score Untreated	Seedling / Emergence	\$300	3	\$900
2	GH-01	Rhize Score Treated	Seedling / Emergence	\$300	3	\$900
3	HA-01	Haney Pre Planting	Pre Planting	\$60	3	\$180
4	RTS-01	Roots to Shoots - Untreated	Mid Vegetative	\$340	3	\$1,020
5	RTS-01	Roots to Shoots - Treated	Mid Vegetative	\$340	3	\$1,020
6	RTS-01	Roots to Shoots - Untreated	Reproductive	\$340	3	\$1,020
7	RTS-01	Roots to Shoots - Treated	Reproductive	\$340	3	\$1,020
		AG1 CRO Management				\$2,469
		Technical Summary				\$1,500
		Total				\$10,029



# Terms & Conditions

## 1. Definitions.

- a. *Buyer* means the purchaser of Services pursuant to the Contract.
- b. *Seller* means RhizeBio, Inc., a Delaware corporation with an office at 235 Tuckasee Road, Suite A, Mount Holly, NC 28120.
- c. *Services* means any services provided to Buyer by Seller in connection with the Contract.

2. **Offer and Acceptance.** If these Terms of Sale are attached to or incorporated by reference in a proposal, or form of agreement (the "Proposal"), these Terms of Sale, together with the Proposal, constitute an offer by Seller to provide the Products and perform the Services as defined in the Proposal in accordance with and subject to the terms herein. No Proposal is binding on Seller until accepted by Buyer. Buyer will be deemed to have accepted the Proposal when it sends Seller notice of acceptance in writing, or ships a sample to Seller for testing, whichever occurs first. Seller may withdraw the Proposal at any time before it is accepted by Buyer, and it will in any event expire sixty days after issuance. No contract will exist except as herein provided. Upon acceptance of the Proposal by Buyer, the resulting contract (the "Contract") will be governed by (a) the terms set forth in the Proposal, and (b) these Terms of Sale. In the event of any conflict between the documents which form the Contract, such documents will be given effect in the order set forth above. Buyer's acceptance is expressly limited to these Terms of Sale and Seller expressly objects to any additional or different terms proposed by Buyer. Any purchase order, acknowledgment, or other communication issued by Buyer in connection with the Proposal or any resulting contract will be construed to be for record and accounting purposes only, and any terms or conditions set forth in such communication will not form part of any resulting contract and will not be considered to be Buyer's exceptions to these Terms of Sale.

## 3. Payment.

- a. **Initial Payment:** A payment of 50% of the total project cost is due upfront, prior to the commencement of any work. This payment serves as a deposit to secure the project and the allocation of resources
- b. **Final Payment:** The remaining 50% of the total project cost is due upon the successful completion of the project. This payment must be made within net 30 days following the submission of the final deliverables.
- c. **Payment Method:** All payments must be made by online bill pay through QuickBooks, Direct ACH payment, or check by mail. Lines of credit may be extended under qualifying circumstances, provided verified proof of approved conditions. Any fees or charges associated with the chosen payment method are the responsibility of the client.

4. **Deliverables; Ownership of Data.** Seller will have exclusive ownership of the data collected by the Products (the "Data") and the content of any analyses and reports relating to the Services which are delivered to Buyer (the "Reports"). Seller may use the Data for its own business purposes or for any other lawful purpose. Seller hereby grants to Buyer a non exclusive, non-sublicenseable, non-transferable license to use the Reports for its own business purposes. The Parties agree that the Data do not constitute personally-identifiable data.

5. **Publication/Publicity.** Neither Party may make a press release announcing the execution of this service without the prior written consent of the other party. Each Party agrees to acknowledge the contributions of the other Party in all publications. Authorship and other matters regarding publications shall be governed by the Uniform Requirements for Manuscripts Submitted to Agricultural and Biological Science Journals.

6. **Warranty.** Seller warrants that each of its employees assigned to perform the Services will have the proper skill, training and background to perform in a competent and professional manner, and that the Services will be performed in such a manner. The warranty for Services will expire one (1) year after performance of the Service. If the Services do not meet the above warranties, Buyer will promptly notify Seller in writing prior to expiration of the warranty period. Seller will re perform defective Services. The warranty period will not be extended or renewed. This Section 5 provides the exclusive remedies for all claims based on failure of or defect in Services, regardless of when the failure or defect arises, and whether a claim, however described, is based on contract, warranty, indemnity, tort (including negligence), strict liability or otherwise. The warranties provided in this Article 5 are exclusive and are in lieu of all other warranties, conditions and guarantees whether written, oral, implied or statutory.

7. **Confidentiality.** Each of Buyer and Seller (each, a "Disclosing Party") may provide Confidential Information to the other (the "Receiving Party") in connection with the Proposal and the Contract. "Confidential Information" means information or material that is proprietary or commercially valuable to the Disclosing Party, provided that such information is disclosed either: (a) in a tangible medium and marked "confidential" or "proprietary" at the time of written disclosure, or (b) orally or by demonstration and within twenty days thereafter is reduced by the Disclosing Party to a writing marked "confidential" or "proprietary." Confidential Information does not include any information that (i) the Receiving Party lawfully knew without restriction before disclosure by the Disclosing Party, (ii) is now or becomes publicly known through no wrongful act or failure to act by the Receiving Party, (iii) developed by the Receiving Party independently without use of Confidential Information, or (iv) is hereafter lawfully furnished to the Receiving Party by a third party as a matter of right and without restriction on disclosure. The Receiving Party will: (i) keep all Confidential Information in confidence during and following termination or expiry of the Contract; (ii) not directly or indirectly disclose any Confidential Information except as required pursuant to a requirement of a government agency or law, provided that the Receiving Party provides prompt notice to the Disclosing Party of such requirement prior to such disclosure; (iii) limit its intentional distribution of Confidential Information to those who have a need to know; (iv) in no event use less than the degree of care and means that it uses to protect its own information of like kind, but in any event not less than reasonable care to prevent the unauthorized use of Confidential Information; (v) not use Confidential Information except in the course of performing its obligations under the Contract; and (vi) not use Confidential Information for its own benefit or for the benefit of any third party. The terms of this Section

are in addition to and will complement and supplement any other agreement between the parties regarding confidentiality or security of information.

**8. Intellectual Property.** Seller warrants that none of Services nor any deliverables will infringe upon or violate any patent, copyright, trade secret, or any other intellectual or proprietary rights of any third party. Seller will defend, indemnify, and hold harmless Buyer, and its officers, directors, employees and agents, against all losses arising from any intellectual property claim. As between the parties, all designs, discoveries, creations, works, devices, masks, models, work in progress, service deliverables, inventions, products, computer programs, procedures, improvements, developments, drawings, notes, documents, business processes, information and materials made, conceived or developed by the Buyer alone or with others which result from or relate to any Products or Services, and all rights with respect thereto, will at all times be and remain the sole and exclusive property of Seller. The foregoing notwithstanding, Seller hereby grants to Buyer for the term of the Contract a non-exclusive, royalty-free worldwide license to use such of Seller's intellectual property, if any, as required to give Buyer full benefit of the Services based on such intellectual property.

**9. Indemnification.** Each Party will indemnify and hold harmless the other Party against all claims for personal injury or for damage to the tangible property of third parties, in each case to the extent such injury or damage is attributable to the negligence, willful misconduct or strict liability of the indemnifying Party.

**10. Limitations of Liability.** Notwithstanding any other provision of this Agreement:

- a. Seller's liability in respect of any defect, error or omission in the performance of the Services will be limited to an obligation to re-perform the defective Services at Seller's cost;
- b. the cumulative liability of Seller whether for breach of contract, breach of statutory duty, under indemnity, in tort or otherwise arising in connection with the provision of the Services whether or not involving negligent acts or omissions will not exceed the Price; and
- c. Seller will in no event be liable for loss of profit or revenues; loss of use of equipment or systems; interruption of business; cost of capital, downtime costs or increased operating costs; any special, consequential, incidental, indirect, or punitive damages; or for claims of the Buyer's customers for any of the foregoing types of damages.

**11. Suspension and Termination.** Seller may terminate or suspend performance of all or a portion of the Services if any portion of the Price is not timely paid, or for any other material breach of these Terms or of the contract of which they form a part which is not cured within ten days next following notice of such breach from Seller to Buyer.

**12. Entire Agreement.** The Contract, including the Proposal, these Terms of Sale any other documents incorporated therein by reference, will constitute the sole and entire agreement of the Parties with respect to the Services, and supersedes all prior or contemporaneous understandings, agreements, negotiations, representations and warranties, and communications, both written and oral, with respect to the Services. Should there be any conflict between these Terms of Sale and those of any other document forming part of the Contract, these Terms of Sale will take precedence unless expressly otherwise agreed in writing by Seller.

**13. Counterparts.** The Contract may be executed in any number of counterparts which together will constitute one agreement. Any party may enter into this Agreement by executing a counterpart and this Agreement will not take effect until it has been executed by all parties.

**14. Notices.** All notices, requests, demands and other communications that are required or may be given pursuant to the Contract will be in writing and sent to Buyer at the address shown in the Proposal, or to Seller at 235 Tuckasee Road, Suite A, Mount Holly, NC 28120, or to such other address as one Party may later specify to the other Party in writing. Notices may be sent by personal delivery, by electronic mail, by first-class mail or by overnight courier. Delivery of any such notices will be deemed to have occurred: (i) on the actual date of service if delivered personally; (ii) at the time of receipt if given by electronic mail to the e mail addresses set forth in the Proposal or otherwise communicated to the other party; provided, however, that a party sending notice by electronic delivery will bear the burden of authentication and of proving transmittal, receipt and time of receipt; (iii) on the third day after mailing if mailed by first class mail return receipt requested, postage prepaid and properly addressed as set forth in this Section; or (iv) on the day after delivery to a nationally recognized overnight courier service during its business hours.

**15. Amendment and Modification.** No change to the Contract or to these Terms of Sale is binding upon Seller unless it is in writing, specifically states that it amends these Terms of Sale and is signed by an authorized representative of Seller.

**16. Waiver.** Except as otherwise set forth herein, no failure to exercise, or delay in exercising, any rights, remedy, power or privilege arising from the Contract will operate or be construed as a waiver thereof. Waiver by either party of any default of the other will not operate to excuse the defaulting party from further compliance with this contract, nor will any single or partial exercise of any right, remedy, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege.

**17. Governing Law; Disputes.** The Proposal and the Contract will be governed and construed in accordance with the laws of the State of North Carolina, without regard to principles of conflicts of law. Any dispute, controversy or claim arising out of or relating to the Proposal or the Contract will be resolved in the federal or state courts sitting in Mecklenburg County, North Carolina, and the Parties hereby submit to the jurisdiction of such courts for that purpose.

# Authorized Study Approval

I approve the details of the study proposal, as outlined above, and do hereby authorize RhizeBio to engage in the analysis of samples acquired for this study.

Representative:

Josh Toal

Representative:

RhizeBio, Inc.