

# MicroSynergies

## Contract Fermentation Information and Questionnaire

### Introduction

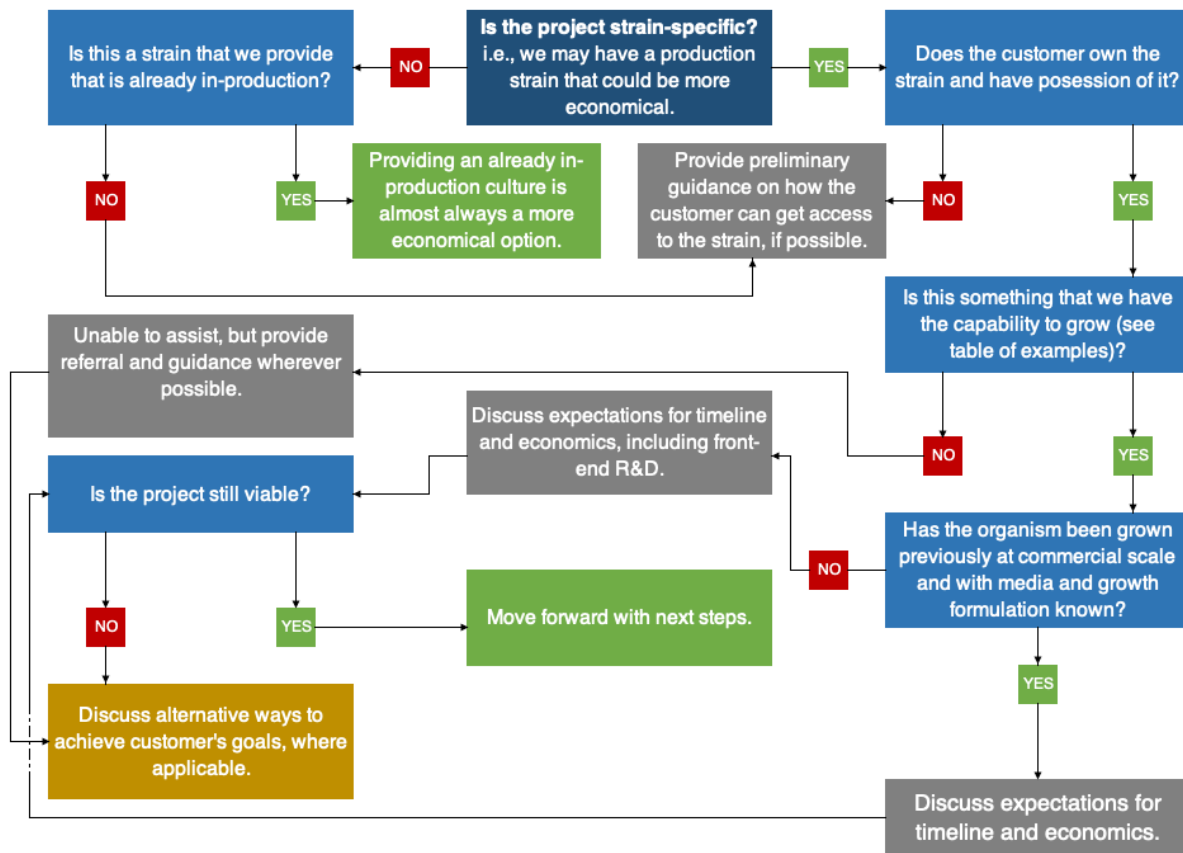
MicroSynergies® has over 40 years of experience in the fermentation of microorganisms as well as in their formulation and application. We serve as a sales arm for over 10 manufacturers of microorganisms across North America and more than double that worldwide, many of whom have been established for decades, are GMP certified, and operate non-GMO facilities with the highest quality manufacturing standards.

In addition to contract manufacturing your specific strain, we can also offer over 25,000 in-house strains, consisting of over 100 of the most popular species used in agriculture, aquaculture, agronomy, human dietary supplements, pond treatment, companion animal health, livestock health, industrial and wastewater applications, and many more. Most of these species are in regular production and can get from our partner manufacturing facilities to you with great lead times.

We'd love to earn your business through either direct procurement of organisms or via contract manufacturing of your specific strain. If you think that contract manufacturing is the right solution for you, please complete the following questionnaire and send to: [bugs@microsynergies.com](mailto:bugs@microsynergies.com) and we'll begin to explore the best options for your project and business! If you're unsure about an answer, that's okay – just leave it blank and we'll figure it out with you!

### Contract Fermentation Project Decision Tree

Please review the following project flow based on our experience to help determine if contract fermentation is the right fit.



**Examples of Project Capabilities:**

Organism Type	Capable?
<i>Bacillus</i>	Nearly all species from small to large fermentations.
<i>Bifidobacterium</i>	YES (5,000L+)
<i>Enterococcus</i>	YES (5,000L+)
<i>Lactobacillus</i>	YES (5,000L+)
<i>Pediococcus</i>	YES (5,000L+)
Other "Lactic Acid Bacteria"	Generally, YES (5,000L+)
Fungi	Possible
Yeasts	NO
Enzymes	NO
Solid-State Fermentation	<i>Streptomyces</i> only
Down Stream Processing	NO
BSL2+	NO
Aerobes (General)	YES, at large scale (\$5mm annual)
Anaerobes (General)	Commonly Produced Only
<i>Streptomyces</i>	Some

If a discussion on contract fermentation seems viable for your project, please complete as much of the information as possible below and return to [bugs@microsynergies.com](mailto:bugs@microsynergies.com) and we'll begin to explore the best options for your project and business!

### Your Contact Information

Company: \_\_\_\_\_

Your Name: \_\_\_\_\_

Title: \_\_\_\_\_

Email: \_\_\_\_\_

Best Phone Number: \_\_\_\_\_

### Organism and Fermentation Information

Have you completed a contract fermentation product before?                      YES                      NO

Genus and species (with strain number, if applicable):

Organism 1: \_\_\_\_\_

Organism 2: \_\_\_\_\_

Organism 3: \_\_\_\_\_

Fermenter Size Desired (if known): \_\_\_\_\_

Expected Yield (either in total cell count or CFUs/g and Kilograms needed) for initial run:

Organism 1: \_\_\_\_\_

Organism 2: \_\_\_\_\_

Organism 3: \_\_\_\_\_

Estimated Order Volume Per Year:

Organism 1: \_\_\_\_\_

Organism 2: \_\_\_\_\_

Organism 3: \_\_\_\_\_

Are there any certifications or requirements for the type of facility to manufacture the strain(s)?

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Are you looking for the final product to be in powder form (more common) or liquid form?

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Are you looking for the final product to be (A) standardized to a specific CFU concentration or (B) as raw bacteria (no carrier or moisture scavenger)?

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Does your company have possession of the strains or are you looking for MicroSynergies to source them for you?

Organism 1: \_\_\_\_\_

Organism 2: \_\_\_\_\_

Organism 3: \_\_\_\_\_

Industry the Organisms will be Used In (i.e.: human, companion animal, or other):

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Are you looking to have a *specific* strain(s) contract manufactured or, if it would be more economical, would you consider a high-quality strain(s) already in production?

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If looking for *your* specific strain(s) to be contract manufactured, have you already completed third-party culture identification (a.k.a. third-party strain “typing”)?

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Are there any special requirements in the R&D scale-up process?

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Are there any special requirements in the fermentation / growth process?

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Are there any special requirements in the processing?

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Are there any special requirements in the packaging or shipping process?

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Are there any special regulatory requirements of the organisms, processing, or facility?

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Has the strain ever been grown commercially?

Organism 1:            YES            NO

Organism 2:            YES            NO

Organism 3:            YES            NO

Product Need-By Date: \_\_\_\_\_

\*\*\*\*\* Please send completed form to [bugs@microsynergies.com](mailto:bugs@microsynergies.com). \*\*\*\*\*

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**MicroSynergies**

Connecting you to the largest collection of  
microbial cultures on the planet.™