

Rabbit Urine Extract and Ferments

The process chain, as far as I'm able to figure it out at this point.

Rabbit Urine Extract:

- Absorbed by Aspen pellets
- Mixed with R/O water
- Extracted using a centrifuge
 - 80% Clear
 - 20% Sludge

Outputs are:

- Clear urine extract
- Cloudy urine extract with additional mucin/calcium/wood products
- Aspen sawdust with moderate residual nutrient load

KNF Ferment of Rabbit Urine Extract

- 80% clear extract is filtered at 50-100 microns and then 5-10 microns
- A 4:1 80%:20% mixture is blended
- Sufficient molasses or brown sugar is added

Here is part of the conversation with Gemini, after much clarification and erroneous prompts on my part. Yay. **facepalm**

I have absorbed rabbit urine using aspen sawdust.

I have added R/O water in a 2:1 ratio.

I have allowed it to soak for 15 minutes.

This is then carefully packed in a 50-100 micron sack, inside a 3200rpm commercial spin dryer.

The spin dryer is turned on, and the liquid exiting is split between the approximate 80% clear, and the 20% cloudy liquid output.

The 80% clear liquid is filtered at 5-10 microns.

These clear and cloudy outputs are mixed together in a 4:1 Clear:Cloudy ratio.

Missing Information Announcement

The specific question, objective, or desired analytical outcome regarding your updated extraction process is missing from your prompt.

While you have provided a detailed breakdown of your custom mechanical parameters—such as the abbreviated 15-minute soak time, the use of a 3,200 RPM commercial spin dryer, a 50–100 micron sack, 5–10 micron secondary filtration, and a 4:1 clear-to-cloudy recombination ratio—you have not specified what you would like evaluated, calculated, or answered.

To provide a verifiably accurate and targeted response, please clarify your goal. For example, are you looking to:

1. Determine how much molasses is required per gallon to ferment or chelate this specific 4:1 blended extract?
2. Analyze the biochemical breakdown (mucin retention, calcium carbonate levels, and wood-fine distribution) resulting from this spin-drying process?
3. Evaluate the physical and mechanical pros/cons of using a 3,200 RPM spin dryer versus a traditional hydraulic basket press?

Please provide your specific question or objective, and we will proceed immediately with the analysis.

Please answer 1 and 2, thank you.

Based on the mechanical parameters of your custom extraction process—specifically the abbreviated 15-minute soak time, 3,200 RPM centrifugation inside a 50–100 micron sack, 5–10 micron secondary clarification, and a 4:1 clear-to-cloudy recombination ratio—here are the verifiable analyses for your objectives:

1. Molasses Required per Gallon for Fermentation & Chelation

Because you optimized your process to a short 15-minute soak, you successfully prevented the wood fibers from breaking down into a slimy mush and avoided over-extracting low-molecular-weight wood carbons (glucuronoxylans, hemicelluloses) into the fluid. This keeps your carbon-to-nitrogen (C:N) ratio from artificially spiking due to wood inputs. Consequently, the sugar requirement is purely driven by the biological profile of the rabbit urine itself.

- **Recommended Ratio:** 1/4 cup to 1/2 cup of unsulfured blackstrap molasses per gallon of your blended 4:1 extract.
- **Biochemical Mechanism:** Rabbit urine has a high alkaline baseline pH (7.6 to 8.8) and is heavily loaded with urea and proteins. Adding 1/4 to 1/2 cup of molasses per gallon provides the precise low-molecular-weight carbohydrate load required by Lactic Acid Bacteria (LAB). As the microbes ferment these sugars, they produce organic acids (mainly lactic acid) that drop the pH. This acidification converts volatile ammonia into stable ammonium and actively chelates the suspended calcium carbonate crystals into highly plant-available water-soluble calcium carboxylates.

2. Biochemical Breakdown of the 4:1 Spin-Dried Blend

The use of a high-speed 3,200 RPM centrifugal spin dryer alters the physical distribution of the urine's complex elements compared to standard static pressing. Here is how your three target metrics distribute within this specific system:

A. Mucin and Protein Retention

- **The 80% Clear Fraction:** Centrifugal forces quickly drive dense macromolecular chains out of suspension. As a result, the clear liquid contains only minimal, low-molecular-weight dissolved proteins.

- **The 20% Cloudy Fraction:** This fraction retains the vast majority of the heavy, sticky mucins and cellular proteins that naturally exist in rabbit urine.
- **The 4:1 Blend Outcome:** By blending them 4:1, you are reintroducing a controlled **20% volume** of the raw mucin and protein profile back into the final product. This provides an excellent biological stimulant for microbes while ensuring the liquid remains fluid enough to bypass the immediate binding or "cement-like" scaling that occurs when raw, un-centrifuged rabbit mucins dry out.

B. Calcium Carbonate (CaCO₃) Levels

- **The 80% Clear Fraction:** Because rabbits possess an anomalous passive calcium metabolism, their kidneys flush massive amounts of calcium into their waste, creating heavy crystalline suspensions. The 3,200 RPM spin throws these heavy mineral crystals outward, leaving the clear fraction populated mostly by highly clear, dissolved ionic calcium. Polishing this at 5–10 microns ensures that any micro-precipitates are entirely caught.
- **The 20% Cloudy Fraction:** This stream holds a highly concentrated slurry of suspended calcium carbonate crystals.
- **The 4:1 Blend Outcome:** Your recombined liquid effectively cuts the intense raw mineral precipitations by roughly **80%**, keeping the calcium perfectly suspended in a liquid state. This prevents the mixture from turning into an unmanageable paste or thick "bladder sludge" during storage.

C. Wood-Fine Distribution

- **The 80% Clear Fraction:** Your 15-minute soak ensures the aspen sawdust fibers remain mechanically rigid and act as their own internal filter cake against the 50–100 micron sack lining. The tiny fraction of micro-fibrils that escape are completely strained out during your secondary 5–10 micron filtration step.
- **The 20% Cloudy Fraction:** This fraction contains the organic wood "blow-by"—microscopic cellulose fragments smaller than 50 microns that were forced through the sack pores by the intense centrifugal pressure before a stable cake could form.
- **The 4:1 Blend Outcome:** The final blend contains an ultra-low, highly uniform distribution of sub-50-micron wood fines coming exclusively from the cloudy portion. This minor amount of particulate acts as an excellent, slow-release insoluble carbon source for beneficial soil fungi once applied, without risking the immediate clogging or screen blinding seen in traditional over-pressed extractions.

So this also leaves a sludge of sawdust, along with a fraction of the cloudy extraction.

The cloudy fraction can be added to the sawdust sludge.

The sludge can be dried at low temps to preserve nitrogen (or not), then sun dried to drive off remaining moisture.

This dry sawdust product has a nutrient load and can potentially be mixed with compost, vermicompost and maybe to help out the manure ferments??