

BASIC INSTRUCTIONS AND NOTES ON LIGHT WEIGHT BACKPACKING MEALS

I make backpacking dinners for a whole year, assembly line style, in one evening (after all ingredients are gathered). I usually make between 80 and 100 dinners every spring, though you can easily do this in smaller quantities. I choose 6 – 8 different meals to make for the year so I don't have to repeat meals in a week-long trip.

If you are doing far less quantity, you may only want to make a few different meals. Or better yet, find some friends who want to make backpacking meals as well and divvy up the preparation work and have a big meal assembly party.

I store the meals in the freezer, they store well for a year or more. If you don't have freezer space to hold meals, you may want to make smaller batches. I can taste a quality difference after the meals have been stored out of the freezer for months.

The Basics and Helpful Equipment:

These meals are made with a mix of dehydrated and freeze-dried ingredients. See the section Ingredients for UL Meals for more explanation.

Most dinners weigh between 6 and 8 ounces packaged.

Your own dehydrator is helpful, but not strictly necessary

A small scale is also very helpful, for weighing ingredients as well as fuel cans

I package meals in standard Ziploc bags, washing and re-using the bags when I get home.

You'll need a simple stove and one pan, plus an insulated container to "cook" the meal in.

See below for more info on stove/fuel/insulated container (cozy).

I keep all the On Trail rehydration instructions on my phone, but you could write them on the bag. Note, I did that one year and between freezing and being packed in my bear bag, most of the instructions rubbed off. That's why I put them on my phone.

Cook and Dry at Home Meals:

You can cook some of your favorite meals at home, dehydrate the prepared food in your dehydrator, pack it in Ziploc bags, and rehydrate it on trail. This works well for stews and some sauces if you make sure everything in the dish is cut up very small. This does not work so well for sauces with very high fat content, like a rich alfredo sauce.

For example, you can dehydrate spaghetti sauce on a tray or film in your dehydrator, but make sure everything is cut in a small dice (no big chunks of onion or pepper). Things like lentil dahl work well but things like old fashioned beef stew would not work well (chunks are too big).

When you dehydrate fully cooked meals, here is one good way to do portion control and to know how much water you will need to add to rehydrate the meal:

1. measure (in a measuring cup) and weigh (on a scale) how much cooked food you are putting on a dehydrator tray.

2. When it is dry, weigh it again. Subtract that weight from the initial weight and you will know how much water weight was lost in the drying process. You will take that weight in water, convert it to cups, and that is your re-hydration water amount.
3. You can easily bag the dried food into portions. If you know you put 2 cups of stew on a tray and dried it, you now know how much a cup of that stew weighs when it is dry. Do your portions accordingly.

Assemble at Home Meals:

Most of the recipes included here are this type. I build the meal out of ingredients, package them together at home and rehydrate it at camp.

Some Cook vs Boiling Water Only Meals:

Some of these meals are “no cook” – they reconstitute wonderfully with just the addition of boiling water, then sitting 10-15 minutes in the cozy.

Some of these meals benefit by bringing to a boil and cooking for a minute or two. The disadvantage to Some Cook meals - it will use a gram or two of fuel AND you will have to wash your pan.

Almost any meal that has gravy or a thick sauce will be better if you cook it for a minute or two to thicken the gravy. A couple minutes of cooking will also reduce the wait/rehydration time for most meals. If you are using bigger chunks of vegetables or dried beans (not freeze dried) you should also cook the meal for a couple minutes. If you choose to use brown rice instead of white, that also needs a few minutes cooking time.

Testing Recipes:

Your first try at assembling meals may not be perfect. The first time you make a meal on the trail, if you find it needs something, make a note on your phone (in the rehydration instructions) to alter the remaining meals of that type at home. The likely things to make a bland meal better - butter or sour cream powder, nutritional yeast, bullion powder, more spices, more salt.

Ditto with the water content – make notes in your rehydration instructions if you want things a little moister or drier.

A Note on Quantity of Food and Scaling Recipes:

When I am distance hiking and doing 15-20 miles a day, I want to take in 3000-4000 calories per day and I am starving at the end of the hike! I plan dinners that will give me 3.5 - 4 cups of food (exactly what will fit in my cozy).

When I am doing a simple November overnight with a 5 mile hike in, I want a dinner that is more like 2.5 Cups of food. Any of these recipes can be adjusted to make less food.

I have also used my scale to combine 2 large meals and divide it by weight into 3 servings, changing the water amount accordingly.

Sometimes I take a big meal with me, eat a good portion of it for dinner, then put the cozy in my bear bag overnight. I then eat the leftovers (cold) for breakfast. This works for me but I know the thought of it grosses some people out.

Basic Formula for scaling serving size and water rehydration:

- The amount of the base carb (rice, mashers) is easily scalable by following package directions. Make a note on your On Trail Rehydration Instructions of how much water you need for your serving size.
- For a base of pasta, the general rehydration formula is about 1 cup of water for 4-5 oz of pasta. You may want to test that at home and make sure your pasta follows that ratio.
- If the topper for the carb is a gravy based recipe, use about a 1:1 ratio of water to dried veggie and meat, plus an amount of water that equals the amount of gravy you want.
 - Example to scale a recipe for chicken stew over rice:
 - $\frac{3}{4}$ Cup combined veggies and chicken + equal amount of water ($\frac{3}{4}$ C) makes about 1.5 Cups cooked food.
 - If you want that stew to be swimming in $\frac{1}{2}$ Cup gravy, add appropriate amount of DIY gravy mix and $\frac{1}{2}$ cup water.
 - That stew would need 1.25 cups water to rehydrate and would make about 2 cups of cooked food.
 - If you want to serve it over 1C cooked rice, put $\frac{1}{2}$ cup raw minute rice in a separate bag and add $\frac{1}{2}$ cup water on trail to rehydrate.
 - Now you have a 3 Cup meal total.

FUEL AND COOKSTOVE

Cookstove:

I use the JetBoil Stash for my no cook trail stove, which weighs 7.1 oz, including the pan, the lid, the stove and the fuel can tripod.

It doesn't have much of a simmer setting, but will do a partial cook on saucy meals.

The pan is small, about .8 L, which is great for me because I am solo most of the time.

When my husband comes, we do our meals one right after another, but given it only takes a couple minutes to boil the water, it's not a problem.

The Stash brings 2 cups of water to boil in around 2 minutes.

The specs say a 100-gram fuel canister will boil 12L water. That's 50 cups, or 2 grams fuel per cup of water boiled. My real-world experience says it averages out to a conservative estimate of 5 grams fuel to boil 2C water (especially if it's cold).

Fuel:

Here is a link to chart that shows weights of empty gas canisters:

<https://bantamoutdoors.com/wp-content/uploads/2023/02/Isobutane-Canister-Weight-Table-g.pdf>

This information allows you can weigh your canister when it's partly empty and find out exactly how much fuel is in there for your next trip. This allows you to not carry a bunch of extra fuel.

Daily Fuel Requirements:

Breakfast plus coffee or tea - 3 cups boiling water, about 7 grams fuel
Dinner – most of these meals need 2-3 cups boiling water, call it an average of 7g fuel.
Dinners that benefit from 2-3 minutes of cooking will average 10g fuel.
14 to 17 grams of fuel per day per person, a bit more if you want night time beverage.
You could round it up and conservatively budget 20 grams of fuel, per day per person.
That means a 100g fuel canister will last at least 5 days. (I usually get 6 days)
A 230 g fuel canister will last 13-14 days.

INSULATED CONTAINER (COZY)

You will need an insulated container to “cook” your meal.

There are multiple options available to you.

- You can find many instructions for making insulated cozy “envelopes” – this means you pack your meal in a freezer bag, add the boiling water right into the plastic bag, put it in the insulated envelope and eat it out of the bag. I won’t eat out of a bag, so that’s out for me.
- You can make a cozy for your cook pan. Make the meal in your cook pan, put the pan in the cozy, then eat the meal from the pan. Here’s why I don’t do this:
 - I like to do most meals in 2 stages – the base carb, then the entrée on top. I boil water for the base carb first, adding it to the carb in my cozy. Then I use the pan to boil the water (or cook for 2 minutes) the entrée, adding the entrée to the already partially cooked carb in the cozy. That way, I have beef stew on top of mashed potatoes, not a thick soup of mixed potatoes and stew.
 - Another reason I don’t want a pan cozy is that when there are two of you, you need that pan to make the second person’s meal.
 - The last reason is that I will sometimes save a portion of my dinner to eat for breakfast in the morning. I would have to put my pan in my bear bag overnight...and no coffee in the morning until I had eaten my leftover dinner. Not happy for me. I want coffee first, then the cold dinner.
- My preferred option is to use a plastic container, make a cozy for it, and eat out of the container still in the cozy. I can put the plastic container in my bear bag at night if I have leftover food. And I have a nice hard sided container to eat out of.

One of these days, I will make a video showing how to make a cozy. Until then, here is a brief description of what to use and how to make it.

You will need:

A container (I use Freshware 32 oz Food Storage Containers with lid, from amazon)

Reflectix or any reflective foil insulation

Duct tape (go for cool colors or patterns to make your cozy beautiful)

Instructions:

1. Since the containers have sloping sides, it’s a little trickier to cut the reflectix to cover the sides of the container. You kind of use the container and a marker, rolling the container and tracing the top and bottom edge as you go. Make it just a tiny bit

bigger than the container, so the container will fit inside the cozy. Cut that shape out and you end up with a piece of reflectix that is kind of arched.

2. Trace the bottom of the container (but a tiny bit bigger) on reflectix and cut out a piece that size.
3. Using the container as a holder, duct tape the side walls of reflectix to the bottom piece, trimming if you need to. Then tape the ends of the big piece together, forming a complete cover for the base of the container.
4. Now make a lid for the cozy. Using the lid for the container, trace a circle just a little bigger than the lid. Using the container (in its reflectix sleeve you just made) wrap another piece of reflectix around the top of the container, make it about 2 inches wide. Cut that strip, then tape it to the piece that is the same size as the lid. You are making a lid for the cozy that will have a 2 inch lip all around it, which hangs down onto the side walls of the container. You want the cozy lid to be nice and snug to the walls of the container. Use your duct tape to cover the whole lip of the lid, and the seam between the lid top and the lid walls.
5. So now you have a complete cover for your plastic container!

Here are some photos of the cozy (and the plastic container insert) I am using. This one has about 2000 miles on it, is 5 years old and needs to be replaced soon. I will do a video when I make the replacement!



Important note on container cozy – I used to hang the cozy in a mesh bag from the outside of my pack. One trip, it got banged pretty hard and the plastic container cracked. That was a problem for the rest of the trip because the cozy container is what cooks my food. Now, I store it inside my pack. I have a small bag that contains all my personal hygiene items, my first aid kit, and my spares/repair kit. It fits perfectly in my cozy and keeps the plastic container from cracking even if there is a lot of pressure on the cozy. Also, the plastic containers age and get a little brittle. I replace mine occasionally.

SOME HINTS ON DOING BIG QUANTITIES OF MEALS and ASSEMBLING THEM AT HOME

Once you know which meals you are going to make and how many, you will need to gather all the ingredients you need to assemble the meals. Here is one strategy that works well for me, since this can be a daunting task!

- Import your recipes into a recipe manager – I use Paprika, but there are many available. I could type the recipe directly into Paprika. Since I keep my UL meal recipes on a google sheet, I copy the link to that sheet into the browser of Paprika to download it into the app.
- Scale your recipe to the number of meals you want to make
- I then add the scaled recipe to the embedded Grocery List feature of Paprika. As long as you use the same ingredient title consistently from recipe to recipe, the app will combine all the like items and give me a grand total of how much of every ingredient, from all 8 recipes, that I need to buy or have on hand.
- If you don't have a recipe app that will do these functions, try a chart like the one below for planning. This will tell you exactly how much powdered butter you need to buy to make all your meals!

Meal, how many	Powd butter	Sour crm	Ched chs	Powd milk	FD chicken
6 Loaded mashers	24 tbsp	18 tbsp	12 tbsp	12 tbsp	
6 Shepherd pie	12			12	
6 Chx stew w mash	12			12	3 cups
6 Mex bowl		18	18		
6 tikka masala	6	12		6	3 cups

Gather up all your ingredients and recipes, making sure you have enough baggies to pack the meals in. I use sandwich size for most things, but also have snack size for some things. (I bring all the bags home from the trail and wash them and reuse them)

I set up a giant assembly line on my living room floor.

The powdered ingredients usually go into a metal mixing bowl, so I don't make a mess and can re-use any spillage. Spices and small things go on a tray or cookie sheet.

I do one meal at a time. If I am making 6 of one meal, I grab 6 bags and label them with the meal name. I put the first ingredient in all 6 bags. Cross that ingredient off before moving onto the next ingredient.

I keep all the in-process bags on a tray, so they don't tip over or get misplaced.

I will often rubber band together meals that come in two bags. (and yes, I have arrived at camp and realized I forgot the rice for the Mexican fiesta bowl...sad dinner)

When I write my recipes, I specify how many bags the meal will be packed in. Often the carb is in a separate bag – both because I like to eat them that way and because my cook pan won't comfortably hold 4 cups of food if it's a big meal. Putting the carb with boiling water in the cozy allows it to cook for a few minutes while I prepare the sauce or stew to top it.