

PHILMONT COOKING METHODS

Cooking methods at Philmont Scout Ranch have evolved quite a bit over the 80+ years the ranch has been in operation. This time has allowed Philmont to find the methods that work best to ensure crews have a positive life-changing experience, while also ensuring the overall ranch operation remains sustainable for future generations. This document lays out the requirements for any cooking method at Philmont as well as the primary method that the Philmont Rangers and other staff teach to participants taking part in backcountry experiences.

It is important to remember that the cooking method that Philmont staff teach is an institutional/expedition-style cooking method which is more efficient for large groups and tailored to the western mountains. This may vary significantly from methods utilized in thru-hiking, solo/small-group backpacking, or trips to other geographic areas.

Philmont staff and administration have evaluated many different techniques shared in forums, social media groups, and Philmont enthusiast websites in varying landscapes and conditions throughout the ranch. However, we believe the method that is taught by our staff and listed below is the best for our overall operation and the Aims & Methods of Scouting. This method is similar to those often utilized by other institutional/expedition-based programs in the industry like NOLS and Outward Bound. More information about Philmont backpacking methods can be found in the [Philmont Shakedown Guide](#).

Requirements for Cooking Methods at Philmont

If a cooking method can meet these requirements, it is likely welcome at Philmont. The cooking method must:

- Be Safe, Stable & Reliable
 - Meets the requirements laid out in the [Guide to Safe Scouting](#), particularly related to proper adult supervision in the [storage, handling, and use of chemical fuels and stoves](#)
 - Mitigate risk of burns (from boiling water, hot food, fuel, or stoves)
 - Mitigate risk of foodborne and waterborne illness and communicable disease
 - Mitigate risk of chemical contaminants in food
 - Be reliable in varied elevations, temperatures, humidity, fire restrictions, and weather conditions
- Follow the Principles of Leave No Trace, in particular:
 - #1 Plan Ahead and Prepare: Follow the policies of the landowner
 - #3 Dispose of Waste Properly
 - #4 Minimize campfire impacts
- Promote the Aims & Methods of Scouting
 - Leadership Development – Crew leader, cook, dishwasher, etc.
 - Ideals – A Scout is Trustworthy & Obedient – Does not break the rules because no one is watching
 - Patrol Method - Brings the crew together to communicate and bond over a shared meal
- Minimize Waste
 - Does not bring additional disposable waste (plastic bags, etc.) into the backcountry
 - Minimizes food waste and wet, heavy, and/or smellable trash
 - Allows for the easy reuse or recycling of as many items as possible
- Minimize Pack Weight & Volume

Philmont Cooking Method

Prepare Kitchen Area

Cooks will:

- Set aside a cooking area near the fire ring and ask others to stay clear (to prevent dust and accidental spills)
- Set out an unused bear bag as the “kitchen countertop” (keeps dirt out of food and food out of the dirt)
- Gather all crew cooking gear (pots, spoons, strainer/scrapper, dishwashing materials, matches, etc.)
- Gather all required meal ingredients

Start Stoves and Get Water Boiling

Cooks will:

- Ensure stove safety
 - Have adult supervision when handling fuel or stoves
 - Wear closed toe shoes
 - Crouch instead of sitting or kneeling (to be able to move away quickly if needed)
 - Have extra water ready
 - Never leave a hot stove unattended
 - Pour fuel near the fire ring utilizing a funnel when no flame or spark is present
 - Ensure unused stoves and fuel are stored away from the kitchen area
- Fill a 6-8 liter straight sided pot with 4-6 liters of water (depending on crew size)
 - Two [ACE Camp Tribal 8L](#) pots are provided by Philmont (with at least one lid)
- Bring water to a boil utilizing a liquid fuel or canister fuel stove **with a low & wide base**
 - [MSR Whisperlite](#) (universal, international, or regular), Optimus Vega, MSR WindPro II, Kovea Spider, and [MSR Dragonfly](#) are popular options

Sanitize Dishes and Utensils

Cooks will:

- Wash their hands with soap and water (sanitizer may be used [if hands are not visibly dirty](#))
- Gather all crew eating utensils and dishware and place on “kitchen countertop”
- Once water reaches a rolling boil, sanitize all personal dishware and crew cookware by dipping it in the boiling water for 10-30 seconds utilizing hot pot tongs or a lightweight multitool

Cook the Meal

Cooks will:

- Pour the freeze-dried, dehydrated, or packaged meal components into an empty 6-8L pot (only combine ingredients all crew members are able to eat)
- Turn off the stove (or turn down to simmer and put food pot onto stove, if directed by food packaging)
- Carefully pour enough hot water to just cover the food
- Stir the food thoroughly and add more water as needed based on package instructions and crew preference (water can always be added, but not removed)
- Cover and allow to rehydrate for the time recommended on the packaging (or until all food has reached desired consistency)
- Stir the food one last time and serve

Eat the Meal

- All crew members wash their hands with soap and water (sanitizer may be used if [hands are not visibly dirty](#))
- Chaplain's Aide leads crew in grace
- Cooks serve the food over the pot to avoid spilling (encourage crew members to only take what they can eat)
- All crew members take care while eating and eat as much food and sauce out of their personal dishware as possible (all food contaminated clothing will need to go in the bear bag)
- Cooks provide additional servings, if available (consuming all food in the pot makes clean up much easier)

Clean Up

Clean up crew will:

- Consolidate trash into one food bag and collect other food bags for recycling
- Collect all uneaten food into a "yum-yum bag" to be packed out – DO NOT DUMP INTO LATRINE OR SUMP
- Collect all crew member's personal dishware and utensils in the kitchen area
- Pour half of the remaining water into the dirty food pot along with 3-4 drops of biodegradable soap (this is now the wash pot; the original boil pot is now the rinse pot)
- Beginning with the cleanest items, scrub dishes in the wash pot, rinse them in the rinse pot, and then stack near the sump to dry for the night ("three bucket" system completed during sanitization before next meal)
- Scrub the wash pot of all food particles

Sump Dish Water – Concentrated Impact (Camps outfitted with sumps – Philmont Property)

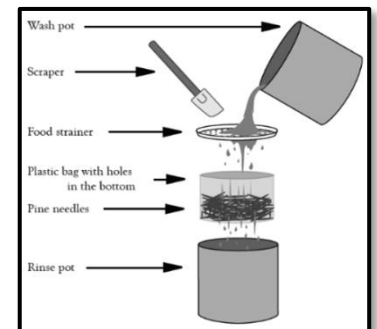
Clean up crew will:

- Hold food strainer over campsite sump
- Pour the wash water through the food strainer into the sump
- Use the scraper to remove all food particles from the strainer and place in the "yum-yum bag"
- Pour the rinse water into the wash pot, swirl around to collect soap/food particles, and repeat process above
- Place used scrubby into "yum-yum bag" (now trash) and hang in the "oops bag" along with scraper and strainer
- Police campsite for food/ trash and hang bear bags

Sump Dish Water – Low Impact (Camps without sumps – Valle Vidal, etc.)

Clean up crew will:

- Poke around twenty holes in the bottom of a gallon size plastic bag
- Fill plastic bag ¼ full with pine needles
- Pour the rinse water into the wash pot and swirl around
- Pour the water from the pot, through the food strainer, through the pine needle bag, and into the second pot
- Repeat process back and forth until no more food particles are in the pot
- Broadcast the water (like a rainbow) 200 feet from any camp or water sources
- Use the scraper to remove all food particles from the strainer and place in the bag
- Place used scrubby piece into the bag (now trash) and hang in the "oops bag" along with scraper and strainer
- Police campsite for food/trash and hang bear bags



This cooking method is taught by Philmont staff because it is safe, accessible to crews with varying levels of experience/resources and can be repeated by thousands of crews with minimal impact.

Alternative Equipment & Methods

Rehydrate/Heat in the Gusseted Foil-Lined Bag (most Mountain House & Alpine Aire meals) – Not Recommended

Considerations/Reasoning: Philmont does not prohibit the rehydrating of meals in their bag AS LONG AS THEY ARE DESIGNED FOR THIS PURPOSE. Not all entrees provided by Philmont come in bags in which food can be reheated (and changing all meals to rehydrating bags would be cost prohibitive and increase waste). Most Mountain House and Alpine Aire options come in a GUSSETED FOIL bag which has a stable base, wide mouth, additional headroom, and a foil liner which prevents melting and seepage of chemicals into food. However, this method is not recommended as it leads to increased burns from boiling water, food waste stuck in the corners of the bag (heavy wet trash), and prohibits Philmont from being able to recycle the bags. Because each bag contains food for two, for hygiene/food safety reasons they should be emptied into a personal bowl/mug (thus negating most cleanup efficiencies gained). This method, however, may be suitable for individuals with dietary restrictions.

Rehydrate/Heat in Standard Packaging (Backpacker's Pantry, stuffing & all other entrees) – PROHIBITED

Considerations/Reasoning: BOILING WATER MUST NOT BE POURED INTO BAGS THAT ARE NOT COMMERCIALY MADE FOR THE PURPOSE OF REHYDRATION. This is extremely dangerous and has led to many Scouts and Advisors being taken to the infirmary for serious burns. Bags that are commercially made for this purpose have extra headroom for the added water, have foil-lined interiors (to prevent melting and/or leeching), seams that can withstand heat, and have gusseted bottoms so that they can stand upright without additional support. The use of commercially produced or DIY pouches, cozies, or other devices still does not address these concerns or make this practice safe.



Serious burn on foot from poured boiling water - This will quickly end a participants' trek

Rehydrate & Reheat in Individual Containers – Not Recommended

Considerations/Reasoning: Reheating in individual containers can reduce the need for two large pots and cut down on food waste left in retail packaging (smellables), but in order to reduce the risk of foodborne illness, these containers still need to be sanitized in boiling water before use and thoroughly cleaned after use. This method does not allow for flexibility in individual portion sizes once the meals have been reheated. This method also does not promote the patrol method through a daily shared meal experience (and the leadership/responsibilities associated with it).

Rehydrate (without heating) in individual containers (Cold-Soaking) – PROHIBITED

Considerations/Reasoning: Cold-soaking dehydrated food, a method sometimes utilized by individual thru-hikers, is not practical at Philmont Scout Ranch. This method does not effectively mitigate risks from foodborne illness/communicable disease through sanitization of eating utensils/dishware. If water is being boiled to sanitize and clean dishes, it might as well be utilized to heat and rehydrate meals. This method also does not promote the patrol method through a daily shared meal experience (and the leadership/responsibilities associated with it).

Boil in Turkey/Ziploc Bags – PROHIBITED

Considerations/Reasoning: Plastic bags cannot be easily cleaned and therefore introduce a large amount of unnecessary smellable plastic waste (which overloads already overstrained backcountry trash collection). They also may lead to melting/leeching of plastic and are difficult to safely retrieve from hot water.

Integrated Canister Stove (Jetboil, MSR Windburner systems, etc.) – Not Practical as Primary Stove

Considerations/Reasoning: Integrated canister stove systems can be a great supplemental stove for quickly heating up enough water for hot drinks or preparing meals for those with strict dietary restrictions while also serving as an emergency backup if the primary stoves fail. However, the integrated pot/cup cannot heat enough water for the rehydration of a full crew's food, requiring multiple boils or crew not being able to eat at the same time. Pouring multiple batches of water from an integrated canister stove into the 8L pot causes significant drops in water temperature which eliminates the ability to sanitize dishes. Not to mention these repeated boils require constant engagement that could be diverted to other kitchen tasks by the cooks. The utilization of adaptors leads to an extremely unstable stove surface for any size of pot to boil water safely. Additionally, overfilled vessels can boil over onto the control/shut-off leading to scalds/burns. 1-2 liquid fuel or isobutane canister stoves with a low, wide base split between the crew will end up being lighter and more compact than integrated canister stoves.

Ultra-Compact Canister Stoves (MSR PocketRocket, SnowPeak GigaPower, BRS-3000T, GSI Pinnacle, etc.) – Not Practical as Primary Stove

Considerations/Reasoning: Similar to integrated canister stoves, compact canister stoves can be a supplemental stove when carefully paired with a SMALL lightweight pot or metal mug for hot drinks or separate preparation of meals for those with strict dietary restrictions. It can also be a backup in case of the failure of the primary low, stable, full-size stove. However, when these stoves are placed on top of a fuel canister they are not a stable platform to boil the large quantities of water required for a crew of 8-12. Additionally, the control/shut-off is generally located under a hot pot of boiling water, which can lead to scalds and burns. 1-2 large, stable stoves, split between a crew of 8-12 is typically lighter than 4-6 ultracompact stoves.

Alternative Fuel Stoves (alcohol, solid fuel, or natural fiber) – PROHIBITED

Considerations/Reasoning: Stoves which utilize alcohol, solid fuel, or natural fiber (wood, etc.) are prohibited for use at Philmont. During fire bans, which happen often in the high desert of New Mexico, only canister and liquid fuel stoves are permitted to be used on most USFS, state, and private land. Additionally, these stoves utilize advanced techniques beyond what is taught at Philmont, they lack the ability to be turned off when needed, they often lack the power to boil water in a 6-8-quart pot, and the wide variety of fuels cannot be readily provided at Philmont backcountry camps/commissaries (only white gas and canister fuel are readily available in these locations).

Utilizing Bleach Instead of Boiling to Sanitize Dishware – PROHIBITED

Considerations/Reasoning: Bleach is typically utilized in the BSA's [Three Pot Method](#) to sanitize dishes, cookware, and eating utensils in a front-country environment by many BSA Units. Commercial food service operations also may use bleach or other chemical sanitizers. However, utilizing bleach as a sanitizer creates a large quantity of spent grey water which then needs to be safely disposed of. In a backcountry setting like

Philmont, this can have a much bigger impact than in a front country setting. This water, which is a precious resource in the southwest desert which must be carried by a crew member (and sometimes must be transported via vehicle to the backcountry), has to be disposed of in a way that does not negatively affect the surrounding environment or the bacteria busy breaking down grey water in sumps. Boiled water can be utilized for not only sanitizing dishes prior to the meal, but also in the cooking of the meal therefore being much more efficient and creating less waste while having a smaller impact on the backcountry environment.

Alternative Cooking Pots (Collapsible, smaller volume, etc.) – Not Recommended

Considerations/Reasoning: Philmont strongly recommends the use of at least one 8-quart pot for preparing backpacking meals on the trail. Limited quantities of smaller (4 and 6 quart) pots are available from Outfitting Services upon request for the second pot. Some crews may opt to bring their own pots made of lighter-weight materials. Please keep in mind that while an 8L pot may seem large and heavy, these pots are split between a crew of 8-12. Each crew member or buddy pair carrying their own metal pots/mugs will end up being heavier than carrying two large pots split between the crew. It is also worth noting that smaller volume pots with less headroom are more likely to lead to spillage/burns. This is even more the case with collapsible pots made of silicone (with hard bottoms) or other materials.

Boil, Rehydrate & Clean All In One Pot (Instead of Two) – Not Recommended

Considerations/Reasoning: Using one 6-8L pot for boiling water, sanitation, rehydration and clean up may seem appealing, but ends up being much less convenient in practice. First, it does not allow crews to adjust the amount of hot water added to the trail food to ensure it is rehydrated properly. Food will typically end up only partially rehydrated or soupy. Any cold unboiled water added will have to be treated ahead of time and will quickly make the meal cold and not integrate well. Most importantly though, utilizing one pot does not allow for a wash and rinse step in the cleaning process. Proper dishwashing is essential to prevent the spread of foodborne/communicable disease in a backcountry setting. Additionally, as mentioned previously, one pot split between a crew of 8-12 ends up being less of a weight and space concern than in a smaller group setting.

Frequently Asked Questions

1. Can we bring our own cooking gear?
 - a. Yes, crews are permitted to bring their own cooking gear provided it meets the requirements outlined throughout this document. Please remember that not all meals can be rehydrated/heated in their packaging, all personal dishware/utensils must be properly sanitized or disinfected, and youth participants should have the ability to practice leadership skills through designated responsibilities. If your crew is interested in purchasing and practicing with the cooking pots and bear bag/ropes issued by Philmont (and then bringing that gear with you on your trek if you'd like), the [Tooth of Time Traders](#) has recently begun offering these items for sale via their [website](#).
2. Why are crews required to bring two stoves?
 - a. Having a functioning stove at all times is an important safety precaution while hiking in backcountry mountains. In the case of a stove failing, it is important to be able to still make hot water for rehydrating food, sanitizing dishware, providing warm drinks to cold participants, or to deal with first aid issues. This second stove does not necessarily need to be the same make/model or fuel type as the primary stove.
3. Should we use a windscreen with our backpacking stove?
 - a. Windscreens can make a significant difference in fuel efficiency and boil time for backpacking stoves, especially in inclement weather. Philmont recommends utilizing them for all remote-fuel stoves. However, they should not be used for compact canister stoves (which are not recommended at Philmont anyway) as they can lead to the fuel canister becoming dangerously hot and potentially combusting.
4. Can we bring our own strainer/scrapper for sumps?
 - a. Crews are welcome to bring their own system for straining food particles as long as it prevents smellables from building up on top of and around sumps and can be easily packed up. Some programs utilize foldable plastic screen as a lighter alternative.
5. Why doesn't Philmont just provide all meals in gusseted mylar bags?
 - a. Availability, participant preference, and cost. Philmont has to purchase over 20,000 servings of each meal item before a summer season. Gusseted mylar bags cost significantly more than simple plain foil or plastic packaging and are not as readily available for the companies which provide our meals (Mountain House, Alpine Aire, Backpacker's Pantry, and others). Additionally, many participants would prefer not to eat freeze-dried or dehydrated meals for the entire trek, so we aim to create a bit of variety.
6. How can we fit 8 Liter pots into our packs?
 - a. Packing personal gear such as clothing or smaller crew gear items into the pot before placing it in your pack. Make sure all adjustable compression straps are released fully and slide the pot into the pack. Any dead space around the pot can be filled with trail meal bags or personal items. These pots fit in most packs 55 Liters and above.
7. Why doesn't Philmont replace bear cables with bear boxes?
 - a. The Philmont Conservation Department has explored the use of metal bear boxes rather than bear cables and is in support of that change. However, as of March 2022, Philmont has approximately 435 bear cables to support 1,259 campsites in 136 camps. Philmont has begun to replace the cables with

boxes in some locations but will require a significant amount of additional funding, time, and labor to be able to replace them all. Currently the department is focused on replacing worn out bear cables with either boxes or an updated cable system which can be repaired from the ground (so that tree climbing gear and training is not required in remote areas). Additionally, thirteen of our camps are off Philmont property, which means permanent equipment cannot be installed, which would require crews to carry bear ropes anyway.

8. Why doesn't Philmont install pulley systems on bear cables so that less bear rope is needed?
 - a. The Philmont Conservation Department has also explored the use of pulley systems on bear cables (see bear box question above). In order to add pulley systems to our bear cables, we would need to find a design that can support multiple crews in one camp, additional funding for parts, and time to install them on over 400 cables. Additionally, pulleys can easily be fouled and require a significant amount of labor to install and maintain. Ultimately boxes or cables that can be repaired from the ground are a better solution than pulley systems. Additionally, thirteen of our camps are off Philmont property, which means permanent equipment cannot be installed, which would require crews to carry bear ropes anyway.
9. Will my ranger/wrangler and other Philmont staff allow my crew to utilize any of the alternative methods mentioned above?
 - a. Yes, granted they are not any of the methods marked as prohibited. However, the crew must be able to clearly demonstrate that they have the appropriate equipment and experience to carry out the method safely while meeting the minimum requirements outlined in the beginning of this document. If your crew cannot meet these requirements, they will be asked to revert to the method taught by Philmont staff.
10. Why does the Philmont packing list include so many items?
 - a. The packing list in the Guidebook to Adventure is designed as a generalized place to start. Through shakedown hikes individuals and crews can determine what items may be redundant and eliminated. Advanced backpackers will typically use a "systems" approach to eliminate as many redundancies as possible, reduce weight, and increase efficiency. Remember that for many Philmont will be their first backpacking expedition and they may not have the skills to utilize systems that more advanced backpackers take for granted. Each individual and crew should find what works for them through repeated shakedown hikes.
11. Other questions?
 - a. Be sure to watch the Philmont Preparedness Seminar Series where you can ask questions live to the Philmont Camping Leadership. You can also contact philmont.camping@scouting.org.

Fuel Type Comparison

	<u>Liquid Fuel</u>	<u>Canister Fuel</u>	<u>Alternative Fuel</u>
Other Names	<i>White Gas, Coleman Fuel, Naphtha, and many others</i>	<i>Gas Fuel, Isobutane, Iso, IsoPro,</i>	<i>Alcohol, Nesbit, tablet, wood, etc.</i>
Lighting	Most require priming, which requires training and practice	No priming required	Varies by fuel type
Fuel Availability	Available in base camp and all backcountry commissaries at Philmont. Available nearly everywhere in the world.	Available in base camp and all backcountry commissaries at Philmont. Not available in all hiking locations outside of Philmont (check ahead of time).	Not available for sale at Philmont or may not be available during a burn ban
Travel	Fuel prohibited in carry-on or checked bags on commercial airplanes, trains, and busses. Stove only permitted if completely clean and free of all vapors (difficult for liquid fuel)	Fuel prohibited in carry-on or checked bags on commercial airplanes, trains, and busses. Stove only permitted if completely clean and free of all vapors (easier for gas fuel)	Prohibited in carry-on or checked bags on commercial airplanes, trains, and busses
Stove Weight	Slightly heavier than remote canister stoves due to fuel pump	Slightly lighter than liquid fuel stoves as fuel pump is not required (compact/ultralight not practical as a primary stove)	Ultralight to quite heavy depending on model
Fuel Weight	Heavier in small quantities when bottle is accounted for	Lighter in small quantities, but heavier in large quantities due to packaging (canister is roughly 30-50% of the weight when full).	Can be extremely lightweight
Health/Safety Concerns	Improper lighting can lead to loss of control and burns; Fuel spilled on bare skin can cause reactions or sudden frostbite in cold weather; Burning fuel in a confined space creates hazardous buildup of carbon monoxide	Canisters are pressurized, combustible, and are unsafe if heated beyond their limits; Sit on top models have controls directly underneath the flame and boiling liquid; Burning fuel in a confined space creates hazardous buildup of carbon monoxide	Most cannot be easily turned off in case of overboil or other issues; Many can be spilled with a near invisible flame
Sustainability/Waste	Refillable bottle prevents waste	Canisters must be punctured and transported for recycling	Typically no waste
Flame Control	Good, though varies by stove model	Good, though varies by stove model	Cannot be easily shut off or adjusted
Boil Time	Quite good	Quite good	Not great
Maintenance	More prone to failures, but field repairable	Less prone to failures, but not field repairable	Little to no maintenance required for most models
Efficiency	More efficient in extreme cold temperatures & high elevations	Very efficient, except in cold temperatures & very high elevations	Typically not very efficient
Fuel Cost	Very inexpensive	Expensive	Free to very expensive
Other Notes	Fuel amounts can be more easily adjusted to fit trip needs; Generally more complicated to use; fuel degrades over time; easy to determine amount of fuel consumed	Fuel does not degrade over time; performance drops when canister is near empty (less pressure); difficult to determine amount of fuel consumed	Alcohol stoves often have an invisible flame. None of these can be easily turned off in case of emergency or allow for control of flame level

Selected Resources

Adventures In Stoving

<https://adventuresinstoving.blogspot.com/>

Boy Scouts of America

Guide to Safe Scouting: Chemical Fuels and Equipment

<https://www.scouting.org/health-and-safety/gss/gss06/>

Centers for Disease Control and Prevention

Hand Sanitizer Use Out and About

<https://www.cdc.gov/handwashing/hand-sanitizer-use.html>

Environmental Protection Agency

What's the Different Between Products that Disinfect, Sanitize, and Clean Surfaces

<https://www.epa.gov/coronavirus/whats-difference-between-products-disinfect-sanitize-and-clean-surfaces>

Gear Skeptic

Backcountry Water Treatment, Part 1: Boiling vs. Pasteurization (Youtube)

<https://www.youtube.com/watch?v=rIMeq0c7rJM>

Mercator Gear

What happens to stove performance at high altitude?

<https://mercatorgear.com/faq/what-happens-to-stove-performance-at-high-altitude/>

Mountain Safety Research (MSR)

Canister Stoves Vs. Liquid Fuel Backpacking Stoves – Which is Right For You?

<https://www.msrgear.com/blog/canister-stoves-vs-liquid-fuel/>

The Mountaineers

Don't Get Sick: The Hidden Dangers of Camping and Hiking

<https://www.mountaineers.org/books/books/dont-get-sick-the-hidden-dangers-of-camping-and-hiking>

Recreational Equipment, Inc. (REI)

How to Choose a Backpacking Stove

<https://www.rei.com/learn/expert-advice/backpacking-stove.html>

How to Choose the Right Backpacking Stove Fuel

<https://www.rei.com/learn/expert-advice/how-to-choose-backpacking-fuel.html>

Tazwell County Health Department

Sanitation: Concentration, Temperature, and Exposure time

<https://www.tazwellhealth.org/DocumentCenter/View/170/2018-Sanitization-PDF>

Zen Stoves

Backpacking Stove Fuels

<https://zenstoves.net/Fuels.htm>

Carbon Monoxide Hazards with Backpacking Stoves

<https://zenstoves.net/COHazard.htm>