

Dragon Skin Preparation

What does my equipment weigh?

| Camping | grams |
|------------------|-------|
| Tent | |
| Tent Poles | |
| Tent Pegs | |
| Groundsheet | |
| Sleeping Mat | |
| Sleeping Bag | |
| Inner Bag | |
| Water Bag | |
| Water Bottle | |
| Torch | |
| Stove | |
| Fuel | |
| sub-total | |

| Carrying | grams |
|------------------|-------|
| Rucksack | |
| Carry Pack | |
| sub-total | |

| Clothing | grams |
|------------------|-------|
| Underwear | |
| Shorts | |
| Swimming Togs | |
| Shirts | |
| Jumpers | |
| Socks | |
| Hat | |
| sub-total | |

| Water and Windproof Clothing | grams |
|------------------------------|-------|
| Parka | |
| Overpants | |
| Balaclava | |
| Gloves / Mittens | |
| Gaiters | |
| Handkerchiefs | |
| Repair Kit | |
| Plastic Bags | |
| sub-total | |

| Footwear | grams |
|------------------|-------|
| Boots | |
| Sandshoes | |
| Spare Laces | |
| sub-total | |

| Ablutionary and Personal Items | grams |
|--------------------------------|-------|
| Towel | |
| Soap | |
| Face Washer | |
| Sunscreen | |
| Toothbrush | |
| Comb | |
| Toilet Paper | |
| First Aid Kit | |
| Snow Goggles | |
| Pocket Knife | |
| sub-total | |

| Cooking & Eating | grams |
|--------------------|-------|
| Frying Pan | |
| Billy | |
| Plates | |
| Mug | |
| Knife, Fork, Spoon | |
| Can Opener | |
| Food | |
| Matches | |
| sub-total | |

| Navigation & Communication | grams |
|----------------------------|-------|
| Whistle | |
| Pencil | |
| Compass | |
| Maps | |
| Map Case | |
| Track Notes | |
| Log Book | |
| sub-total | |

| | |
|----------------------|--|
| Total Weight: | |
|----------------------|--|

Lightweight Foods

- We normally eat 2 to 2½ kg of food per day.
- We can reduce this to 0.9 kg or even less by reducing water content
- Why carry excess water?
- In cold, wet conditions, more food is required to maintain energy.
- In parts of Australia, water must be carried at all times for safety reasons.

HOW CAN WE LEAVE OUT EXCESS WATER

- Leave canned foods at home
- Use freeze-dried foods for preference, or use dehydrated foods
- Use prepared food mixes: Rosella, Vesta, Kraft
- Try compressing some foods. Remember, any recipe for compressed lean meat, if not carefully prepared, poses the danger of food poisoning.
 - compress cooked lean meat
 - freeze, compress, freeze, compress
 - grind in mincer
 - carry in cloth bags
 - reconstitute in stew

RATIONS FOR DIFFICULT CONDITIONS

Remember that some rations may not be advisable under difficult conditions such as blizzard conditions or fire hazard days.

If these conditions are likely during your expedition

- modify rationing principles
- simplify the menu
- use pre-cooked foods
- use hot/cold rations
- don't forget emergency ration pack.

IMPORTANT POINTS TO CONSIDER

- Lightweight rations cost more
- All lightweight foods require correct use
- Always follow the manufacturer's instructions
- Prior practice (at home) is wise. Incompetence at specialised cooking 'on the hoof' may ruin things!

Lightweight Food and Rationing

Food selection is not an easy task. Apart from personal likes and dislikes, the nature of the trip and the time of year, there are five basic requirements that should be satisfied.

1. **High Calorific Value:** The maximum food value compatible with variety, portability and weight to satisfy the energy demand of carrying a rucksack, travelling through rough country and enduring cold conditions.
2. **A Balanced Diet:** This is essential to maintain a party's good health, especially on a long trip.
3. **Palatability:** Surviving on dull, hard rations adds little pleasure to a trip.
4. **Weight and Bulk:** As all that is eaten must be carried in the rucksack, weight and bulk are important considerations, but calorific value must not be sacrificed to save weight.
5. **Ease of Preparation:** Careful selection and packaging of food can save time and trouble, especially when cooking in cold and windy conditions and when the party is tired.

Sample Ration for Hot, Dry Conditions (when water may have to be carried) for hikes of up to five days

This ration is also suitable for periods of acute fire danger when food may have to be eaten without cooking. Cans of some foods may need to be shared.

| Item | Daily ration per person |
|--|-------------------------|
| Breakfast | |
| Cereal, muesli or rolled oats | 56 grams |
| Apple (small, fresh) | 84 grams |
| Honey | 28 grams |
| Baked beans or spaghetti (canned) | 112 grams |
| Lunch | |
| Biscuits (Vitaweat or similar) | 84 grams |
| Margarine | 42 grams |
| Cheese (foil-wrapped processed cheddar) | 28 grams |
| Dates, raisins, dried apricots, etc. | 56 grams |
| Jam, honey, vegemite | 28 grams |
| Tea | |
| Soup or tomato juice (canned) | 112 grams |
| Meat (canned) | 112 grams |
| Green peas or beans (canned) | 112 grams |
| Instant pudding (half packet) | 42 grams |
| Additional Items | |
| Milk powder (full cream) | 112 grams |
| Milo or similar | 56 grams |
| Sugar | 56 grams |
| Glucose tablets, boiled sweets, barley sugar, etc. | 112 grams |
| Fruit drink powder (e.g. Refresh) | 28 grams |
| Salt | 28 grams |
| Total Weight: | 1,372 grams |

- This daily ration is heavier than a 'temperate zone' ration as it includes more water and some cans.
- The amount of milk powder is quite high. Powdered milk and Milo is a very acceptable way to assist the adequate consumption of water. Fruit drink powder also helps if mixed with water in the water bottle for consumption between meals.
- Canned mixed vegetables, asparagus and celery soups are quite refreshing and palatable diluted with water and eaten either hot or cold. Rolled oats may be cooked or eaten cold with milk, sugar and raisins.
- For periods of up to a week, or even two weeks, rations for hot, dry conditions can be a little less than the normal daily calorie requirements. It may result in a slight loss of body weight but will not really affect the safety factor.

Sample Rations for Cool and Temperate Conditions for hikes of up to five days

In very cold conditions more bacon, egg powder, dehydrated meat, sugar and hot drinks may be required, but the total daily rations should not exceed 1120 grams per person.

| Item | Daily ration per person |
|---|-------------------------|
| Breakfast | |
| Cereal, muesli or rolled oats | 56 grams |
| Powdered egg | 14 grams |
| Bacon (two medium rashers) | 56 grams |
| Tea, coffee, Milo | 7 grams |
| Lunch | |
| Biscuits rye or wholemeal bread | 84 grams |
| Margarine | 70 grams |
| Honey, jam, vegemite | 42 grams |
| Cheese (foil-wrapped processed cheddar) | 56 grams |
| Dates, raisins, etc. | 7 grams |
| Milo | 7 grams |
| Tea | |
| Soup (dehydrated) | 14 grams |
| Rosella meal or dehydrated meat | 42 grams |
| Dehydrated vegetables (peas, beans, etc.) | 28 grams |
| Dehydrated potato | 14 grams |
| Instant pudding, custard, etc. | 14 grams |
| Dried fruit (apple, apricot, peach, etc.) | 56 grams |
| Rice | 28 grams |
| Tea, coffee, Milo | 7 grams |
| Additional Items | |
| Milk powder (full cream) | 56 grams |
| Salt | 14 grams |
| Flour | 28 grams |
| Glucose tablets, boiled sweets, barley sugar, etc. | 28 grams |
| Chocolate | 56 grams |
| Fruit drink powder (e.g. Refresh) | 7 grams |
| Sugar | 84 grams |
| Scroggin (unsalted nuts, sultanas, raisins, candied peel, glace fruits, chocolate etc.) | 70 grams |
| Total Weight: | 994 grams |

- 1 oz equals 28 grams
- Dehydrated food requires adequate cooking to allow the food to reconstitute. Make sure the manufacturer's directions are followed.
- The boiling point of water *decreases* with an *increase* in *altitude*. At sea level, water boils at 100°. At 1500 metres the boiling point is 95° and the cooking time is increased by about 60%. At 3000 metres the boiling point is 89° and the cooking time is *increased* by almost 400%.
- Remember, carry in, carry out tins, aluminium foil, plastic, etc.
- Pack dry foods in small plastic bags, turn the top over several times and close with a rubber band. These can be washed and re-used.
- On a hike of several days or more, or with a large party, it is well worthwhile to pack the portion for each meal in a separate bag to avoid running short before the end of the trip.
- Emergency rations include chocolate, dried fruits, nuts, fruit and energy bars.
- The addition of small quantities of gravox, curry powder, herbs, onion, salt, etc. can add variety to meals consisting predominantly of dehydrated foods.

Water

The body of a human being weighing 68 kilos contains approximately 43 litres of water. A daily intake of about 1.4 litres from food and drink will normally maintain the balance providing losses from sweat are kept to a minimum.

- Sitting in the hot sun for 24 hours in the tropics, a person could lose up to 5.7 litres of water, mostly in the form of sweat. Physical exertion would increase the loss to about 14 litres or more.
- Walking with a rucksack at 3 kph in warm, dry conditions (15°) a person weighing 64 kilos will lose 2.3 litres (about a 5% loss) in 24 hours. 5 litres (12%) will be lost if the temperature is 27° and 9.7 litres (23%) if the temperature is 38°. Resting 24 hours in the shade, or at night, the loss will be 1.7 litres at 15°, 2.3 litres at 27° and 4.5 litres at 38°.
- An inadequate supply of water leads to rapid deterioration of the body's functions. A 5% deficit of the body's weight reduces its efficiency about 25% and may cause discomfort. A 10% deficit will cause greater discomfort, headache, dizziness and inability to walk properly. A deficit of 5 to 10% will not of itself cause death and signs of discomfort will pass quickly after an adequate intake of water. A 20% deficit of the body's weight may result in death, preceded by delirium.

Water Purification

Increased pollution of water supplies, especially in settled areas, poses a serious health hazard for the bushwalker. Clear running water should always be sought for drinking, but even then it may be contaminated. If there is any doubt about the safety of water for drinking it should be purified. Opaque and dirty water should first be filtered through several layers of cloth and allowed to settle before the clear water is carefully poured off. This will not purify contaminated water. Even though it may look clean, it will require boiling or chemical purification to kill any germs it may contain.

Purification to Kill Germs

- **Boiling:** Boil water for 15 to 20 minutes. Shake when cool to restore taste, or add a tiny pinch of salt.
- **Chemical Purification:**
 - Stericaps, containing halazone, a chlorine derivative, are available from Scout Shops. Add one capsule per litre of water. Shake well and allow to stand for 30 minutes before drinking.
 - Puritabs are available from chemists or bushwalking equipment suppliers. Add one tablet per litre of water, shake well and wait ten minutes before drinking.

If the water is still opaque after filtering two or three times, the stated does should be added, depending on the state of contamination.

Salt

The average daily diet contains about 10 grams of salt, which is greatly in excess of the body's normal daily requirements. Most of this excess is excreted in the urine. Working hard in a very hot climate can require an intake of 15 or 20 grams of salt to make up for the increased loss due to profuse sweating (about one litre per hour). A loss of this magnitude would require a greatly increased fluid intake as well as an additional five to ten grams (one or two heaped teaspoons) of salt to be consumed each day. The most convenient method is to add salt to food or drinking water (half a teaspoon per litre of drinking water). In general, walking in a hot climate requires only a small addition of salt to the daily diet. Salt tablets are not necessary and should be avoided.

Bibliography:

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- Exploration Medicine, O G Edholm and A L Bacharach, Wright, Bristol, 1965.

Lightweight Food and Rationing Guide

The following guide is based on 'cool weather' rationing of approximately 990 grams per person per day.

| | | |
|-------------------------|-----------------------|--|
| Protein | 260 grams bacon | Dehydrated meat Cheese Powdered milk Nuts Powdered eggs Soup powder |
| Fat | 70 grams | Margarine |
| Sugar | 210 grams | Sugar Chocolate Sweets Jam Honey |
| Starch | 200 grams rolled oats | Biscuits Rice Flour |
| Bulk | 200 grams | Dehydrated vegetables Dehydrated fruit |
| Miscellaneous | 50 grams | Tea Coffee Milo Salt |
| And don't forget | | Matches Toilet paper Soap Emergency rations Water Pot scourer Pencil and paper Spare cash |