

THE BASIC GUIDE TO RAT OWNERSHIP

*Calico Rattery
& Exotics*



EDITION 2

TABLE OF CONTENTS

Diet	3
Grains, Seed and Fresh Diet	3
The Dry Mix Diet	3
Pelleted Diet	3
Combination Diet	4
Do NOT feed:	4
Take note when feeding:	4
What diet do we recommend?	5
Housing	6
Factors That Decide How many Rats Per Cage:	6
Traditional Cages	6
Deep Base Cages	6
DIY Cages	6
What cage do we recommend?	9
Bedding	10
Kiln Dried Pine✓	10
Hemp & Aspen✓	10
Fleece✗	10
Carefresh✗	10
Corn cob✗	10
Compressed wood/pine pellets✓	10
Shredded paper/newspaper✗	10
Enrichment	11
Our Ideal Setup	12
Health & Wellbeing	13
Health Check	13
Medical Kit	14

Diet

Rats are opportunistic granivore omnivores, which means that they will eat what is available, be it plant or animal matter, but require the majority of their diet to be grains. Many rodents have different dietary requirements, which is why it is not recommended to offer your rat a diet geared towards another rodent such as hamsters. Certain human foods such as cereals and processed foods can be very high in fats, sugars and salt, which are extremely unhealthy. Sugars and salt have been proven to promote and aid in tumour growth. Treats should be kept to an absolute minimum. They do not need treats to thrive, even if their cute eyes try say otherwise.

There are many different ways to feed your rats (methods outlined below) to ensure they get all the nutrients they require. All values below are approximate and may change based on various factors including but not limited to environmental temperature, age of rat, sex of rat, pregnancy/lactation status, type of foods offered, etc.

A rat can eat between 15-40g per day. depending on the above factors.

Protein: 15%-18%

Fat: 2.5%-6%

Fibre: 5-10%

Ash/Minerals: 7-8.5%

GRAINS, SEED AND FRESH DIET

This diet is based on the rats getting 50% of their food from a grain and seed mix, and the other 50% from fresh foods. They are offered fresh breakfast, a scattering of grain mix, and fresh dinner. This diet is great for offering your rats a great variety, but can be costly if you do not have feed stores local to you to obtain the grains and seeds, and/or if you live in an area where fresh foods are expensive and you are unable to grow your own. This method is also very time consuming and is not always realistic. This method of feeding has a high chance of selective eating if not carefully monitored and lean periods not strictly adhered to. We recommend using the URC Basic Mix instead of mixing your own grains and seeds.

THE DRY MIX DIET

This is the most commonly used form of feeding. This diet assumes you are feeding a mix that together provides all the nutrients a rat needs, while occasionally (1-4 times a week) offering fresh food as well. The biggest risk with this method of feeding is that if you have picky eaters, they may end up lacking in certain vitamins and minerals. There are many dry mixes on the market, ensure that you are buying one that is suitable for your rat, or using a recipe that is healthy and proven. We recommend the URC Maintenance Mix or Versele Laga Rat Nature.

PELLETED DIET

Unfortunately, in South Africa we do not yet have a rat specific block that is complete and healthy. Thus far, the closest we have come is Selective Rat Pellets and Monty and Me Essentials, which is a dog pellet but is in line with a rats' dietary requirements. On a true complete pellet, offering fresh foods is not a requirement and most only do so on an ad-hoc basis. Many pellets are not complete and require monitoring. We have used Monty and Me Essentials for many years with no issues and no supplementation needed, and therefore recommend this pellet.

COMBINATION DIET

This diet is for those who do not have the time or ability to offer a lot of fresh foods but would still like to offer something. This diet utilises a decent pellet as the staple, with a grain and seed mix offered once a week alongside a fresh meal. On days where fresh foods and seeds are offered, the pellet is not offered.

A typical week on this diet may look like the following :

Monday-Saturday : Pellets

Sunday Morning- Porridge

Sunday Afternoon- Grain and Seed Mix

Sunday Evening- Fresh/Cooked Meal

DO NOT FEED:

- ❖ Wild insects
- ❖ Stones/Pits/Seeds
- ❖ Avocado Skin
- ❖ Liquorice
- ❖ Sweets/Mints
- ❖ Unripe fruits/veg
- ❖ Carbonated drinks
- ❖ Excess sugar/sugary treats
- ❖ Blue/Moldy Cheese

TAKE NOTE WHEN FEEDING:

- ❖ Citrus- In a study where rats were fed extremely high amounts of d-limonene concentrate for an extended period of time, it was found that it increased the likelihood of cancer in male rats. This does not mean it is unsafe for male rats to consume, it simply means that it must be fed in moderation, as with most things
- ❖ High water content vegetables such as cucumber or iceberg lettuce- These foods are not unsafe to feed, however provide very little nutrition and are mostly water. This can come in handy for long trips, however please note that overfeeding of these items may cause runny stools
- ❖ Almonds- Bitter almonds are high in emulsion which produces cyanide under certain circumstances. Sweet almonds do not have this same enzyme and therefore do not produce cyanide. Most commercially available almonds are sweet almonds.
- ❖ Spinach- This vegetable is high in oxalate and should therefore be fed in moderation
- ❖ Rhubarb- Only to be fed when cooked and be very limited

- ❖ Onion family (onions, leeks, spring onions)- More palatable when cooked however can be fed raw, to be fed in moderation
- ❖ Aubergine/Eggplant- Can be fed raw or cooked but is more palatable when cooked. Should be fed in moderation as it has a small nicotine concentration
- ❖ Beans- Can be fed when cooked. Raw beans contain antinutrients
- ❖ Foods high in sugar- These should be limited
- ❖ Endive- Increases calcium absorption and bone density so useful for young rats but should be fed in moderation as too much can cause issues
- ❖ Loganberry- Bitter when raw, should be fed cooked
- ❖ Sweet Chestnuts- May cause stomach upset if fed raw
- ❖ Leaves and Flowers of Tomato- Avoid feeding
- ❖ Sticky foods such as peanut butter- This may pose a choking hazard for some rats and should be monitored when fed or watered down
- ❖ Lactose- Some rats may be lactose intolerant. Introduce dairy slowly and in small amounts, monitoring stools for any abnormalities
- ❖ High fat foods- Rats cannot metabolise fats in the same way that we do and therefore all unhealthy fats should be avoided

WHAT DIET DO WE RECOMMEND?

So after all is said and done, what do we recommend? We recommend using Monty & Me Essentials for young rats (under 6 months) and does, and a pellet that Calico Rattery sells through their Calico Pet Supplies shop. The reasoning for this recommendation is that the Monty has a higher protein and fat content that is ideal for higher energy rats, while the other pellet is lower in protein and fat which is ideal for lower energy rats, which bucks tend to be. While a mix diet (Such as the URC Maintenance Mix) is made to cover your rats dietary needs, there is no guarantee each rat is getting the correct proportions of food. One rat may be sucking up all the protein while another is sucking up all the veggies. This can lead to long term issues that may not be easily detectable.

Housing

Rats need to be housed indoors in a cage that is adequate in size for the amount of rats within. There is some controversy regarding whether pet rats are fossorial or arboreal. Many pet groups insist rats are arboreal as they enjoy climbing. Science and natural habits indicate rats are fossorial as they live in burrows underground in the wild.

Domestic rats do seem to enjoy climbing, however they also enjoy burrowing and foraging. It is also dependent on the personality of your rats. Ideally, you want a cage that allows for floor space as well as climbing/hanging space. A rat should never be forced to climb to be comfortable.

The average amount of space needed per rat is 1000cm². This means that for a minimum of 2 rats, your minimum cage size would need to be around 60x35cm. This is roughly the size of the XL rat cage, or Magyver Stack 'n Store Tote.

FACTORS THAT DECIDE HOW MANY RATS PER CAGE:

- ❖ Activity level of the rats (if they are lazy, more can go into a cage. If they are active, less can go into a cage)
- ❖ How the colony functions as a whole (do they fight when confined to a smaller space? Do they prefer to cuddle together, or have their own space?)
- ❖ How often do you want to clean (more rats= more cleaning)
- ❖ How much free roaming time do they get (out of cage time).
- ❖ Size of the rats

TRADITIONAL CAGES




- ❖ These types of cages are often more geared towards giving the rats height over floor space, and usually do not offer much in the way of digging opportunities without additional customisation
- ❖ Girls tend to like this type of cage more. You can create levels by buying actual levels (either Perspex or metal), by hanging baskets, making wooden levels, or using dowels and correx.
- ❖ Common cages in this category include the XL Rat Cage, Mansion and Penthouse.




DEEP BASE CAGES



- ❖ These types of cages are often bunny cages.
- ❖ They often have wide bar spacing so make them unsuitable for females or young rats. This can be rectified by covering the cage in wire mesh.
- ❖ They provide ample room for burrowing, but can lack in climbing room.
- ❖ Common Cages in this category include the Gentlemans Rat Cage and Corner Bunny Cage.

DIY CAGES

- ❖ Bin cages are the best DIY cage
- ❖ The pros are that you can customise it for your needs (height, floor space, deep base, levels, material it is made of, etc) and it is usually cheaper than a bought cage
- ❖ Cons are that you may find you need tools you do not have, or may battle if you are not handy.
- ❖ Must have atleast 3 sides with large mesh panels

<u>CAGE</u>	<u>COST & STORE</u>	<u>PROS</u>	<u>CONS & MODIFICATIONS</u>
 <p>XL Rat Cage ✓</p>	<p>R925 from Pet Mania</p>	<p>Perfect for 2-3 rats with daily out time.</p> <p>Small bar spacing for babies</p> <p>Good floor space to size ratio</p>	<p>No more than 3 rats at a time (and no more than 2 if your rats are big)</p> <p>Not much space for creativity in decorating and enrichment</p> <p>Custom correx base or container required for adequate substrate</p>
 <p>Penthouse ✗</p>	<p>No Longer Available From Pet Mania</p>	<p>Small bar spacing for babies</p> <p>Opportunity for creativity with decor and enrichment</p>	<p>Small door size</p> <p>Poor floor to size ratio</p> <p>Custom correx base or container required for adequate substrate</p> <p>Only good for 4 rats with no additional levels</p>
 <p>Mansion ✗</p>	<p>No Longer Available From Pet Mania</p>	<p>Small bar spacing for babies</p> <p>Opportunity for creativity with decor and enrichment</p> <p>Can be turned on side for better floor to size ratio- good for 6 rats with no additional levels</p>	<p>Small door size</p> <p>Poor floor to size ratio when upright</p> <p>Custom correx base or container required for adequate substrate</p> <p>Only good for 4 rats with no additional levels</p>

 <p>Savic 95/Equivalent✓</p>	<p>R7090 from Catbox Pet Hyper</p> <p>Replica From CR Pet Cages</p> <p>Knockoff From CR Pet Cages</p>	<p>Adequate floor space for 8-12 rats</p> <p>Opportunity for creativity with decor and enrichment</p> <p>Full size doors (except in the case of the knockoff which only half the doors open)</p> <p>Replica has large, deep metal bases. Perfect for deep bedding</p>	<p>Savic 95 has shallow plastic pans which do not allow for adequate substrate. Will need large dig boxes or custom correx bases</p> <p>Knockoff has slightly wider bars, unsuitable for babies</p> <p>Savic rusts quickly if not taken care of correctly</p> <p>Expensive (Savic)</p>
 <p>Gentlemen's Rat Cage✓</p>	<p>From CR Pet Cages</p>	<p>Good for 4-6 rats</p> <p>Deep base for adequate bedding</p> <p>Opportunity for creativity with decor and enrichment</p>	<p>Bar spacing not appropriate for babies & smaller rats</p> <p>Relatively small door</p>
 <p>Zeno Range✓</p>	<p>R3,979 from Pet World</p> <p>R3099 from Pet World</p>	<p>Deep base for adequate bedding</p> <p>Opportunity for creativity with decor and enrichment</p> <p>Small bar spacing for babies</p> <p>Good for 4-8 rats (depending on specific cage)</p>	<p>Small doors</p> <p>Expensive relative to similarly sized cages from other suppliers</p>

 <p>Bunny Cages (variety)✓</p>	<p>R449.50 from CR Pet Cages</p> <p>R960 from Pet Mania</p>	<p>Many sizes available so you can get what you need</p> <p>Deep base for adequate bedding</p>	<p>Bar spacing too large for rats. Need to be meshed</p>
 <p>Bin Cages✓</p>	<p>R200+ R230 for 160 litre from Makro</p> <p>Mesh from R60 p/m</p>	<p>Customisable</p> <p>Deep base for adequate bedding</p> <p>Correct mesh=correct bar spacing</p> <p>2-6 rats per bin dependant on size</p>	<p>Requires certain tools</p> <p>Requires effort</p> <p>Bin size limited horizontally</p> <p>No front door unless you make one</p>

WHAT CAGE DO WE RECOMMEND?

Generally speaking, for a mischief of 3 rats, we would recommend either the XL cage or a bin cage. For large mischiefs (8 and over), we would recommend a savic 95 or alternative. For mischiefs somewhere in between, we would either recommend a bin cage (or multiple bin cages stacked together), or a modified bunny cage or penthouse.

Please chat to us BEFORE buying a cage if you are a new owner. The above are only a few of the options out there. Only the cages with the ✓ are options we personally recommend, however there are plenty more out there that we can chat with you about. If you decide on a bin cage but don't want to make it yourself, we are happy to make it for you. We also make custom correx bases.

Bedding

KILN DRIED PINE ✓

- ❖ The most common bedding used by breeders. (NOT SAWDUST!).
- ❖ Affordable.
- ❖ Absorbs ammonia well and helps to reduce the overall “smell” of your rats.
- ❖ Can be changed 1-2x per week (depending on the number of rodents you have).
- ❖ Good for burrowing.

HEMP & ASPEN ✓

- ❖ Similar to KDP but significantly more expensive.
- ❖ Hemp is the best bedding to use for people who may have allergies.

FLEECE ✗

- ❖ Popular option amongst pet rat owners.
- ❖ Needs to be changed every 2 days MINIMUM, depending on the number of rodents you have.
- ❖ Fleece absorbs and retains ammonia, and can cause respiratory problems and lung scarring if not changed out frequently enough.
- ❖ Fleece also needs to be washed in animal safe detergent in order to prevent respiratory complications.
- ❖ Does not allow for burrowing

CAREFRESH ✗

- ❖ Good Water Absorption
- ❖ Poor ammonia neutralisation.
- ❖ Expensive.
- ❖ Needs to be changed frequently.
- ❖ Good for burrowing.
- ❖ Contains Dioxins (harmful)

CORN COB ✗

- ❖ Goes mouldy quickly when moist.
- ❖ Needs to be changed frequently.

COMPRESSED WOOD/PINE PELLETS ✓

- ❖ Great for your litter boxes.
- ❖ Expensive if filling a whole cage.
- ❖ Absorbs urine and neutralises ammonia well.
- ❖ Not good for burrowing.

SHREDDED PAPER/NEWSPAPER ✗

- ❖ Better for nesting material.
- ❖ Needs to be changed frequently.
- ❖ Absorbs urine but does not neutralise ammonia.

Enrichment

Rats are intelligent creatures who are crepuscular. This means they are most active in the early morning and late evening. Although they can and often do become accustomed to your schedule, they still need things within their cage to keep them busy. This can be anything from wooden ladders and parrot toys, to climbing ropes and rope bridges. Hammocks and baskets are also good for using up “dead space” in the middle of the cage.

- ❖ You can DIY toys by threading popsicle sticks and certain woods (like apple tree twigs) onto a wire.
- ❖ Empty toilet rolls stuffed with toilet paper/tissues and treats are also great for a quick activity. Scatter feeding also provides a lovely activity and enrichment for your rats while fulfilling a need.
- ❖ Sputniks are an absolute favourite with most rats. The rats love to pile into them, as if it's a secret game to see how many of them can stuff themselves into a single sputnik.
- ❖ Baskets can be found at the crazy store, westpack, china mall, etc. Make sure you choose baskets that don't have large holes in them so that your rats don't get their feet stuck in them.
- ❖ You can also purchase brown paper bags from any packaging store and fill it with dry mix, hay, shredded newspaper, etc. Your rats will absolutely love this and it provides a great source of added fun and enrichment.
- ❖ Please be prepared that whatever you put into your cage, the rats will destroy. Rats chew, it's what they do. I've often seen people getting upset that their rats chew the toys and ledges they put into the cage, but that's what the toys are for. They are meant to be there for the rats to enjoy. So make sure that everything you put into the cage is safe for your rats, and don't form any personal attachments to these items.
- ❖ Rat wheels can also be used in your cage, however, there are some requirements for these as not all wheels are created equal. You will need to find a wheel no smaller than 30cm diameter. Avoid wheels with bars and mesh as your rats feet and toes might get stuck in them. Lastly, some wheels have a metal bar that runs across the sides of them, avoid these as rats can get stuck and injured in them.

- ❖ Moist Coco Peat in a box either in the enclosure or in a safe free range area is perfect to encourage more digging opportunities. The coco peat MUST be kept moist (not wet) at all times to discourage dustiness which can cause respiratory issues. This option can also be used as a main substrate. Before doing this, please ask us about it.

Please see the following links for further information:

- ❖ Toys:
<https://www.facebook.com/imagineratteryusa/videos/341885679710820/?v=341885679710820>
- ❖ Climbing:
https://www.facebook.com/imagineratteryusa/posts/251863128837293?_tn=-R
- ❖ Bird puzzles:
https://www.facebook.com/imagineratteryusa/posts/251864972170442?_tn=-R

Our Ideal Setup

In an ideal world, this is what we would recommend to a first time adopter with no existing setup, who only wants 3 rats.

Cage- XL Rat cage, large flight cage OR DIY Bin Cage

Food- Monty & Me Essentials and/or Calico's recommended buck pellets

Bedding- KDP in base

Sleeping opportunities- Plastic Baskets/Sputniks

General Enrichment- Wheel, wooden branch ledges, pine block ledges, hanging chews

Special Enrichment- Coco peat digbox

We are happy to offer a "starter kit" for new owners, which will be customised to suit each owners needs as necessary, including all of the above items. Price is dependant on choices of cage and accessories, etc.

We are also happy to provide example pics of setups we would do to give you inspiration or guidance when buying accessories, cages, etc.

Health & Wellbeing

HEALTH CHECK

Due to the fact that rats are prey creatures, they are very good at hiding illnesses. Once symptoms have been noticed, it may already be too late. For this reason, you should perform basic health checks on a regular basis, and take note of overall behaviour on a day to day basis. If you notice something alarming, it should be seen to ASAP by a medical professional

- ❖ Behaviour & Personality- If your rat suddenly starts eating less, becomes nippy or irritable or becomes lethargic, these may be signs of an issue.
- ❖ Breathing- A rats breathing is usually very silent. Abnormal breathing such as heavy breaths, wheezing, gasping or clicking are signs of distress. This could indicate a respiratory infection, allergies or a heart condition.
- ❖ Body – The body should be devoid of any lumps or bumps. Small scratches usually heal fine on their own, however large cuts may require disinfection and close monitoring. The rat should be shaped like a bread loaf, with no excess fat, nor protruding bones.
- ❖ Coat – Fur should be soft, smooth and have a sheen to it. Rusting (brown patches) may be a sign of a copper deficiency either due to diet or the rats personal inability to properly absorb copper. Loss of fur may indicate barbering, mites, or a fungal infection such as ringworm.
- ❖ Ears – When a rat is in distress they will often be pulled back. Therefore the ears should stand upright at all times. Ears should be devoid of scabs, bumps, discharge or smells.
- ❖ Eyes – The eyes should be bright and devoid of swelling, redness or discharge. A small amount of porphyrin is normal during change of seasons and after sleeping. Swelling behind or around the eye can be indicative of an abscess, tumour or other infection. In hairless, swelling and thickening of the eyelid is common and it is known as entropion.
- ❖ Excrement – Blood in faeces or urine should be seen to immediately. Soft poop may be a sign of internal parasites, too much wet food or a food item disagreeing with the system.
- ❖ Genitals- Bleeding, foul odours or discharge is a cause for concern in male and female rats. Females do not have a period like dogs or humans and therefore should not bleed unless giving birth or there is an issue. Some bucks may get their penis stuck, in which case a sugar and water paste can be used to massage it back in. Genital prolapses and anal prolapses should be watched out for.
- ❖ Nose- The nose should be free of discharge or porphyrin. Excessive sneezing should be seen to as it may indicate an allergy or other issue. Small amounts of sneezing and porphyrin is acceptable during weather changes and bedding changes.
- ❖ Odour – In general, rats and their cage should smell neutral and “rat-like”. A rotting or sweet smell can indicate an infection or other medical issue.
- ❖ Posture & Movement- Rats should be active. Lethargy, loss of balance, inability to hold food, walking in circles and inability to use limbs are signs of many issues and should be seen to ASAP.

❖ **Skin-** The skin should be free of scabs and should never be blue or purple. The latter is a sign of poor circulation and should be seen to. The skin should bounce back when pinched, if it stays up it is a sign of dehydration.

❖ **Tail-** The tail should be round from base to tip, with no bones visible. The tail should be devoid of scabs or other issues.

❖ **Teeth-** The front teeth should be yellow. White front teeth can be an indication of a lack of minerals in the diet. A rat grinds its teeth to keep them short. If there is excess growth or the teeth are misaligned, the teeth may need to be trimmed on a regular basis, or other measures taken.

❖ **Weight-** A rat's weight should remain stable. One should monitor the weight and body condition in tandem to ensure the rat is healthy, as weight alone does not indicate much.

MEDICAL KIT

Recommended items to keep in a first aid kit are as follows:

Please note that this does not replace vet care

- ❖ **1ml syringe** - medicine measurement
- ❖ **5ml syringe** - syringe feeding purity/isomil/tea for weak rats
- ❖ **Allergex-** alleviates allergy symptoms
 - Dosage: 0.03ml per 100g 2x a day (3 days max)
 - Administration: Oral
- ❖ **Asthma pump** - unable to breathe
 - Dosage: 1-2 pumps
 - Administration: pumped close to rats face, for inhalation
- ❖ **Baby food (purity)** - encourage eating/extra nutrients
 - Administration: Oral
- ❖ **Baytril 10%** - URI (Antibiotic)
 - Dosage: 0.005ml per 100g every 12 hours or as directed by vet
 - Administration: Oral (must be diluted)
- ❖ **Bisolvon** - Open airways
 - Dosage: 0.03ml per 100g
 - Administration: Oral
- ❖ **Camomile tea** - healing properties/rehydration
 - Administration: Oral
- ❖ **Cortisone/Aspelone/prednisolone** - multi use (URI, tumours, etc)
 - Dosage: use as directed by your vet
 - Administration: Oral
- ❖ **Dermavet** - injuries
 - Administration: Topical
- ❖ **Doxysyrup** - URI (Antibiotic)
 - Dosage: 0.1ml per 100g every 12 hours or as directed by vet
 - Administration: Oral
- ❖ **DoxyBiotic Powder** - URI (Antibiotic)

- Mixing Instructions: Mix 1g Powder with 15ml Liquid (eg water)
- Dosage: 0.1ml per 100g every 12 hours or as directed by vet
- Administration: Oral
- ❖ **Ensure** – Sick / Underweight rats
 - Dosage: Mix 50/50 with water
 - Administration: Oral
- ❖ **F10 wound spray/debrizyme** - injuries
 - Administration: Topical
- ❖ **Heat pad/water bottle** - rat in shock/weak
- ❖ **Isomil** - extra nutrients/hand rearing pups
 - Dosage: Mix 50/50 with water
 - Administration: Oral
- ❖ **Ivermectin 1%** - mites, worms and lice
 - Dosage: 0.01-0.02ml per *500g*
 - Administration: Topical
- ❖ **Nurofen** - pain management
 - Dosage: 0.05-0.2ml per 100g (depending on pain severity)
 - Administration: Oral
- ❖ **Protexin** - gut health/diarrhoea
 - Dosage: Lightly sprinkled over food
 - Administration: Oral
- ❖ **Rehydrat** - dehydrated/weak rat
 - Administration: Oral
- ❖ **Revolution** - fleas, mites and worms
 - Dosage: 0.02ml per 100g
 - Administration: Topical
- ❖ **Viral Guard Junior**- Immune booster for sick rats/during season changes
 - Dosage: 0.1ml daily for 7 days max. Alternatively, 0.1ml 2x per week for use over long periods
 - Administration: Oral