



Taking good care of Ellegaard Göttingen Minipigs®



- Talk quietly and calmly to the pigs and move slowly around them.
- Sort the pigs according to their pen of origin (the pen number is written in the upper right corner of the label on the front of the shipping crate).
- Give pigs access to water ad libitum – set the level of the water nipples at 2 cm below the pigs' shoulder height.
- Feed the pigs according to the feed chart in the enclosed Housing and Feeding description. The first day after delivery, feed the pigs 30% less than the recommended amount. Gradually increase the feed dose to the recommended amount over the course of the next three days.



Housing and Feeding of Ellegaard Göttingen Minipigs[®]

1. Housing



Due to the high health standard of Göttingen Minipigs, they should not be housed together with other swine breeds. If other breeds are housed in the same facility, Göttingen Minipigs should be housed in a separate room at a minimum. Staff working with other pigs should avoid coming in contact with the Göttingen Minipigs. If the same staff has to take care of different pig breeds, they should start with the Göttingen Minipigs before working with pigs that have a lower health status. Maintain strict procedures to avoid contamination from tools, feed carts, clothes, footwear, etc.

When the Göttingen Minipigs you have ordered arrive, sort the Minipigs into pens separating males from females, according to their original pen number. This will minimize stress when establishing their new hierarchy. The pen of origin is written on a label on the front of the shipping crate. sort the Minipigs. Group housing is preferred. If your study requires individual housing, the Minipigs should be able to have snout contact through pen dividers or at least visual and auditory contact. It is important to separate the pens with dividers that are at least 120 cm high to prevent animals jumping from one pen to the other.

The floor can either be solid concrete with a rough surface for secure footing or raised grids or a slatted floor. Grids and slatted flooring provide good sanitation but poor insulation and will require a slightly higher room temperature. Bar width of approximately 10 mm and bar spacing of approximately 12 mm is appropriate for most sizes of Minipigs. When Minipigs are housed on plastic or metal floors, their hooves need to be trimmed regularly (every 60–90 days) since the hooves will not wear down as they would on concrete floors.

Water ad libitum should be available. Water nipples must be at Minipig shoulder height so they only need to lift their head a little to drink. The height of the nipples should be adjusted once or twice a month as the Minipigs grow.

Light: 12 hours daily, 100–200 lux **Humidity:** 50–70%



Temperature: The correct temperature is measured at floor level. If measured more than 30 cm above floor level, increase the temperature accordingly. When bedding is used, the temperature can be reduced by two degrees.

Age	Temperature °C
Less than one month	28
1–2 months	26
3–6 months	22–24
More than 6 months	20–22

2. Enrichment



Chains hanging down to bite in, ferret balls to play with and autoclaved straw or hay are good environmental enrichments. Please observe that parasites can be transmitted by untreated straw or hay. (NB: If Minipigs are used in oral dosing studies or studies where gastric emptying is measured, no bedding or roughage should be given 48 hours prior to dosing. Ingested bedding material and roughage will delay gastric emptying substantially in Minipigs.)

3. Feeding



High-fibre, low-energy diets for Minipigs can be obtained from producers of dietary products for laboratory animals. Göttingen Minipigs are fed SDS SMP minipig diet prior to delivery.

Minipigs – especially females – must be fed a restricted diet to control growth. The exact requirements are influenced by a variety of factors that need to be taken into account when designing a dietary regimen. Factors which influence requirements include age, weight, gender, health status, activity, singular/group housing, room temperature and air velocity. To prevent draughts, the air velocity should be less than 0.3 m/sec.

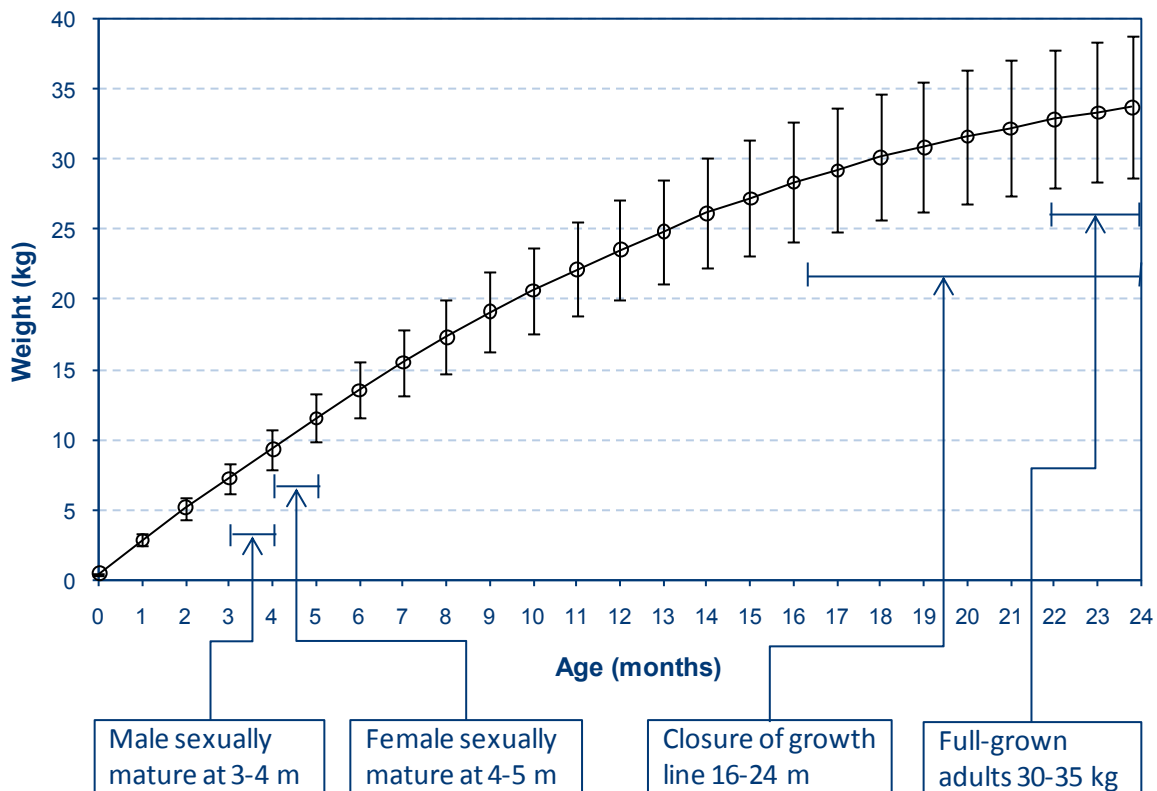
Males have a higher maintenance requirement compared to females, and males react to feeding or environmental changes by losing weight faster than females.



Dietary energy is used to maintain body temperature. Individually housed Minipigs generally use more energy for maintenance due to a lack of communal heat. Heat loss via convection through the air or conduction through the floor are also important factors. Minipigs in housing with heated flooring, bedding or mats will require less energy compared to those housed on cold flooring.

Collectively housed Minipigs always develop a hierarchy where the strongest Minipig gets the most food. This can be resolved by either separating the Minipigs when feeding or by spreading the feed over a large area of clean floor. If housing consists of full slatted flooring, a rubber mat can be used for feeding.

Because of the factors mentioned above it is extremely important to record the weight and age of the Minipigs throughout your study to make sure they are not overweight or underweight. The Göttingen Minipig Target Growth Curve (below) shows the normal weight of Göttingen Minipigs at different ages.



As a guide, Minipigs should gain roughly 0.5 kg per week, from 1 month to 12 months of age. Minipigs older than 12 months should gain roughly 0.25 kg per week and the maximum weight of approximately 35 kg is desirable at 24 months of age.



Feeding Guidelines



Table 1 below should be used as a feeding guide. If the weight of a Göttingen Minipig is outside the recommended guidelines at any particular age, the amount of food offered to the Minipig should be adjusted by +/- 20–40% until the weight is back within the guidelines.

Minipigs younger than 7 months should have their daily amount of food divided into two feedings. Minipigs older than 7 months can be fed their daily amount of food in one feeding only.

Table 1: Total daily amount of food:

Age (months)	Weight (kg)	Males (g)	Females (g)
2–4	5–9	240	220
4–6	9–13	240-300	220-280
6–8	13–17	300-340	280-320
8–10	17–21	340-380	320-360
10–12	21–25	380-420	360-400
> 12	25–35	420–600	400–600

In order to control/monitor the amount of food eaten and encourage a healthy appetite, it is recommended that any uneaten food be removed after one hour. Leaving food in the pen can lead to familiarity, boredom and reduced food consumption. Removing the food entirely will encourage interest and hunger at the next feeding which are essential for normal food consumption.



Summary:

- Know the exact age of your Göttingen Minipigs (see the date of birth on the animal certificate).
- Remember that males require more food than females – don't just give the average.
- Feed according to age.
- Weigh Göttingen Minipigs regularly and make sure their growth is correct according to the weight development in the table or the Target Growth Curve above.
- Adjust the daily food amount by +/- 20–40% compared to the above recommendations if the Minipig is outside the weight development in the above table.
- Remove any uneaten food within one hour after feeding.
- For Minipigs younger than 7 months, split the daily amount into two feedings.
- For Minipigs older than 7 months, feed the daily amount in one feeding.

Further details: www.minipigs.com

Literature: *The Laboratory Swine*, 2000. By P. J. A. Bollen, A. K. Hansen and H. J. Rasmussen. CRC Press.

The Minipig in Toxicology, 1998. Ed. Ove Svendsen. *Scandinavian Journal of Laboratory Animal Science*, Suppl. 1, 1998, Vol. 25.



Our Minipig diet is purchased from Special Diet Services (SDS, Witham, England).

Below is a list of distributors:

1) UK & Direct Sales

Special Diets Services

Phone: + 44 (0) 1376 511 260

Fax: + 44 (0) 1376 511 247

Email: info@sdsdiets.com

web: www.sdsdiets.com

6) Poland

Company: Merazet S.A.

Tel. +48 61 8644 600, +48 61 8644 618

Fax. +48 61 8651 933

Email: optyka-labor@merazet.pl

2) France

SDS France

Phone: +33 1 30 10 94 94

Fax: +33 1 30 10 94 99

Email: france@sdsdiets.com

7) Singapore & Malaysia

i-DNA Biotechnology Pte. Ltd.

Phone : (65) 6779 0665

Fax : (65) 6776 0368

Email : thuan@i-dna.biz

Web : www.i-dna.biz

3) Holland - Belgium - Luxemburg

Company:

TECNILAB-BMI

Phone: +31 493 44 07 06

Fax: +31 493 44 07 03

Email: info@tecnilab-bmi.nl

8) All Other Areas please use UK details

Special Diets Services

PO Box 705

Witham, Essex

CM8 3AD England

Email: sld@dilsds.com

Phone: 00 44 (0) 1376 511260

Fax: 00 44 (0) 1376 511247

4) Scandinavia & Finland

Company\; Scanbur

web: www.scanbur.eu

5) Germany

Company: SDS Deutschland

Phone: +49 (0) 6236 560 430

Fax: +49 (0) 6236 14 94

Email: info@sdsdiets.de

web: www.sdsdiets.de



Courses

Handling and dosing These courses are arranged according to need and can take place at Ellegaard in Denmark or on your premises. Each handling course consists of theory (history, genetic management, husbandry and handling of the Göttingen minipig) and practice, where basic procedures are demonstrated and practised by the participants.

Surgery and anaesthesia Surgery courses at Ellegaard Göttingen Minipigs provide training in small groups (max. of 4) and can be tailored to the needs of the participants. Each surgery course is divided into theory and practice modules. The pre-planned programme can be modified to suit the wishes of the participants.

DVD's

Histology This DVD allows users to familiarize themselves with the normal histology of the Göttingen Minipig.

Handling and dosing With this DVD you can familiarize yourself with some basic handling and dosing procedures when working with the Göttingen minipig.

Procedural aids

Restraint chair for gavaging



Component for restraint chair



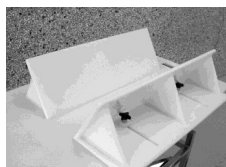
Minipig scale



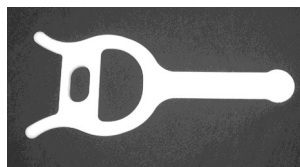
Sling frame



Restraint bench for blood sampling



Mouth bite bar



For information about courses or to enquire about prices:

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