

# Pavo



*InShape Program*



**LEARN HOW YOU CAN MAKE YOUR  
HORSE LOSE WEIGHT IN A RESPONSIBLE WAY**



#### MANAGEMENT

ADJUSTMENTS IN AND  
AROUND THE STABLE



#### EXERCISE

START THE  
COMBUSTION



#### NUTRITION

HOW MUCH IS MY  
HORSE ALLOWED  
TO EAT



## Compliments

### You have taken the first step



Your horse is too heavy and you want to do something about it? Fantastic! It is quite something to realise that your horse is overweight because nobody intentionally lets their horse become too fat. Most likely, the layer of fat has gradually grown and bit by bit your horse has become plumper. Suddenly you noticed your horse is overweight, or somebody asked you whether your horse is in foal, while you have a gelding. So it's time for action, because you don't want your horse to develop health problems, such as insulin resistance or laminitis.

Of course, you want to find out how heavy your horse is and how you can make sure that he will lose weight in a responsible way. We are going to help you with that. When we have assessed your horse's actual condition, we will give you guidelines and tips for adjustments to management, exercise and nutrition. With this program, you will be able to work towards a suitable weight for your horse and by doing so towards a healthier horse.

## Pavo InShape Program

The Pavo InShape Program is a complete program to allow your horse to lose weight in a healthy and responsible way. The program is based on three important pillars which are essential: management (how do you take care of your horse), exercise and nutrition. The program consists of various chapters in which you will find out more about these pillars, alternated with experiences told by horse owners who have already followed the program. Which problems did they encounter during the weight loss program? And how did they solve these problems? We are proud that various experts, each with their own expertise, have contributed to this wonderful program..



Nutritionist and veterinary surgeon **Veerle Vandendriessche** contributed the lion's share. Her title Diplomate of the European College of Veterinary and Comparative Nutrition (ECVCN) shows that she is one of the absolute world class nutritionists. Veerle has specialized in horses and pets and is one of 36 European 'diplomats', two of whom are engaged fulltime with horse feed. Veerle has supported more than one weight loss program for horses and knows better than anyone else what is involved and what problems owners face.

Exercise is the essence to realise weight loss. And to learn all about this we called upon the knowledge of **Dr. Carolien Munsters** (PhD). She obtained her doctorate with a thesis on the sport physiology of the horse. By translating scientific knowledge into practice she assists riders and coaches in improving their performance. With her company Moxie Sport, she has already helped a large number of top riders with analyses and/or support, among other things for the 2012 Olympics in London and the 2016 Olympics in Rio de Janeiro. Currently, she is helping several combinations with their preparations for the Olympic Games in Tokyo. In addition, Carolien gives courses in the field of sport physiology for horses, she works as a researcher at the Utrecht University faculty of Veterinary medicine and is an embedded scientist for horse sports (NOC\*NSF).

For our chapter on exercise, we consulted a second expert, sports physiologist **Irene Tosi**. She studied Veterinary medicine at the University of Milan (Italy) and after that specialised in physiologic research on horses at the Faculty of Veterinary Medicine at the University of Liège (Belgium). She lectures and supervises students in the area of physiology of sport horses. She also carries out research into the effects of exercise on muscles in the horse's body.

*Tip!*

*Before you start and put your horse on a diet, you can ask your vet for a general body check of your horse to exclude the possibility that your horse is overweight due to health problems such as insulin resistance.*



*"Losing weight is difficult but when you persevere your horse will become more energetic and healthier. Be assured that you are not the only one who has let things come this far. About 55% of all leisure horses are overweight."*

**Nutritionist and veterinarian  
Veerle Vandendriessche**

**Horse name:** \_\_\_\_\_

**Variety:** \_\_\_\_\_

**Age:** \_\_\_\_\_

# Body Condition Score

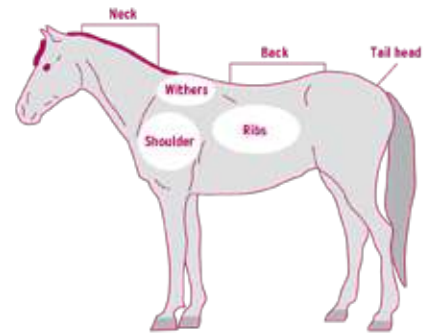
## How much is my horse overweight?

Before we start with the program, it is important to know where you are now. How much overweight is your horse? We will do a few things to determine this. We will look at body condition scores and we will determine the horse's weight.

### BCS

When we determine the horse's body condition score, or BCS, we will look at six different areas: the neck, withers, loin, tail head, ribs and the area just behind the shoulders.

The picture below clearly shows the areas you should look at, as these are important to properly assess your horse's condition.

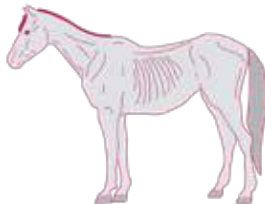


### Score your horse

By means of the pictures and description per area below, you can assess your horse and determine its score. The average of the six areas determines the final body condition score. Be honest when you complete the BCS, even though it can be confrontational. Don't forget, you are about to do something about it.

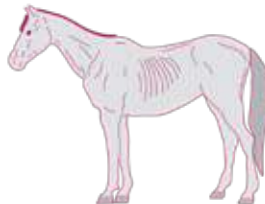
#### 1. Poor

The bone structures of the neck, shoulder and withers can easily be felt. The spinous processes are visible and so are the ribs. The tail head is also clearly protruding. No fat tissue can be felt.



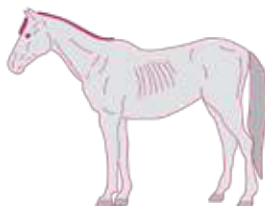
#### 2. Very thin

The bone structures of the neck, shoulder and withers are vaguely visible. The vertebrae and the tail head can be felt. The ribs are visible.



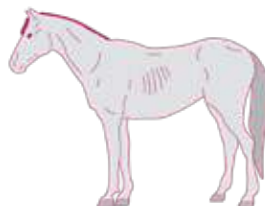
#### 3. Thin

The bone structures of the neck, shoulder and withers are discernible, but the bone structure cannot be distinguished. The vertebrae can no longer be felt. The tail head can be felt, but the individual vertebrae are no longer visible. The ribs can still be seen, but there is some fat cover.



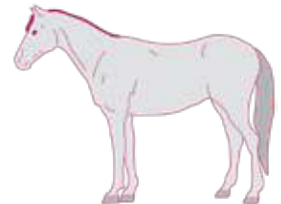
#### 4. Moderately thin

The neck, shoulder and withers do not appear overly thin. A slight ridge of spine is visible. The tail head may or may not be visible depending on the breed and some fat cover can be felt. Outline of the ribs is vaguely visible.



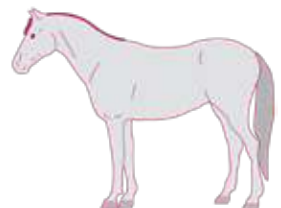
#### 5. Moderate

Neck and shoulder make a smooth transition to the body. The withers are rounded. The tail head is spongy. Ribs cannot be seen, however, can easily be felt.



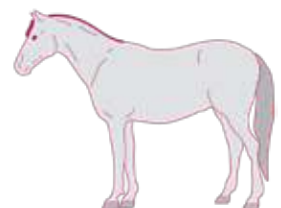
#### 6. Moderately fleshy

Along the neck, behind the shoulders and at the sides of the withers, fat deposits are building up. Possibly, there is a slight crease down the spine. The tail head feels spongy. The fat cover on the ribs feels spongy, however, you can still feel the ribs.



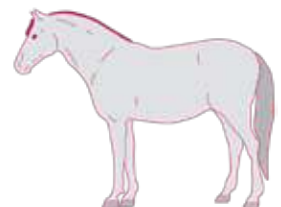
#### 7. Fleshy

Fat deposits along withers and neck and behind the shoulders. Possibly, there is a slight crease down the spine. The tail head feels spongy. Individual ribs can still be felt, but the ribs have a noticeable fat filling between them.



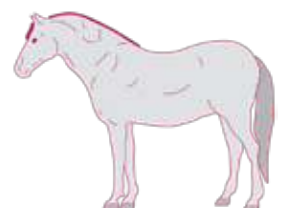
#### 8. Fat

The neck is noticeably large. The withers and the area behind the shoulders are filled with fat tissue. There is an apparent crease down the spine. The fat surrounding the tail head feels very soft. As a result of the fat, the ribs are difficult to feel.



#### 9. Extremely fat

Bulging fat on the neck, at the tail-head, withers, and behind the shoulders. Fat on the inner thighs can make them rub against each other and the fat fills the flanks to such an extent that the body and flanks continue in each other. There is an obvious crease down the spine. There is patchy fat on the ribs as a result of which you can no longer feel the ribs.



*"Take a picture from the side and the back of your horse, every month. After a few months, you will clearly see the difference."*



# Measurement is knowledge

In order to make an estimation of the weight of your horse we will take your horse's measurements. Special measuring tapes are available for this purpose. There are special weight measuring tapes available.

The formula developed by Carroll and Huntingdon provides the most accurate estimation of the horse's body weight. You will need to measure the girth and the length of your horse and put these data in the formula in order to calculate your horse's weight. This is how it is done:



## This is how the measuring tape should be used:

1. Make sure your horse stands square. The weight should be equally divided over four legs and the horse has to look ahead.
2. Put the measuring tape around your horse's chest slightly diagonally forward. To this end, you put the measuring tape just behind the withers and around the horse like a girth.
3. Carefully pull the tape, but make sure you do not press the skin. Look at the centimetres on the tape. That is the chest circumference.
4. Now you measure the length of your horse: you place the measuring tape in the middle of the points of the shoulder (where the neck starts), up to the seat bone just below the tail.
5. Now calculate as follows: [girth measurement (cm) x girth measurement (cm) x length measurement (cm)]: 11,877 = the current weight

A handy, but less accurate way is reading the kilograms on your measure tape. In that case, you will only need to follow step 1 to 3 and instead of reading the centimetres you read the kilograms. Using the Carrol and Huntingdon formula is more preferred.

## How much weight should your horse lose?

We recommend that you measure your horse's weight on a weekly basis. This will give you a reliable insight if you are on the right track. The goal is to realize a weekly weight loss of 0.5 to 1%. By measuring, you can adjust the program, if required. For that matter, losing weight too fast is not good and can lead to health problems. You may think 'Great this is working well', but when the weight loss exceeds 1% per week, you will need to adjust your program. After your horse has reached his ideal weight, you should continue measuring and checking your horse's weight regularly.

*Tip!*  
Measure three times and  
use the average of the outcomes.

It is hard to tell how much weight your horse should lose, or what the ideal weight for your horse will be. There is no standard. Every horse and every breed is different. The measuring tape is a tool to check whether you are on the right track. The body condition score is always leading for the weight loss.

Record your measurements in the diagram on page 6.



*"You should measure your horse on a weekly basis.  
This will give you a reliable insight whether you are on the right track.  
The goal is to realize a weekly weight loss of 0.5 to 1%".*

**Nutritionist and veterinarian  
Veerle Vandendriessche**

## Score monthly: be patient

5 is the ideal score and we will work towards that score. As from now on, you will do this Body Condition Score monthly. Don't expect visible results after one month. During the first weeks, you will often see the tummy becoming thinner, but that has no effect on the body score. Usually, you will only see some real results after two months.

Write down the things you notice in the weight chart.

Week	Date	Weight	Body score
0 (start)			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			

## Owner's experience

### **"By moving to another livery stable, I got my horse back"**

Patricia de Leeuw: "My Lusitano Zartouche has always been on the heavy side. That I could participate with him in the weight loss program from Pavo and the GD Animal Health was an incentive to make him lose weight. When Zartouche started with the weight loss program, his BCS was 8. In other words, time for action. At the livery stable where I kept Zartouche, from spring onwards, the horses are put out on the pasture 24/7. There were no other options. But Zartouche had to lose weight. So basically, this was a no-go. The last period of the weight loss program coincided with the beginning of the grazing season and our holiday, which is why we brought Zartouche to a training stable for a month. After that training period, we decided to move Zartouche to another livery stable where the conditions suited him better. This stable offered more options, making it easier for us to maintain Zartouche on his new weight. Because 24/7 grazing would have undone the weight loss program".

#### **Exercise**

"Zartouche had just had a lengthy period of rest due to injuries and when we started with the program, from a viewpoint of training, we were in the building-up stage. Thanks to that month of training, we found out that the intensity level of the exercise we asked him to do, did not cause any further problems. Now I am training Zartouche together with my sister. We enthusiastically try to exercise him 5 to 6 times a week. Due to his injuries, perhaps unconsciously, we had become too careful with him."

#### **Awareness**

"I am happy that I joined the weight loss program with my horse. For me, awareness has been the most important learning point. Now, I also know how to optimally manage my horse. For us, the program was the perfect incentive. We carefully followed the instructions. When riding, we notice a clear difference. He is simply leaner and as a result, is more agile. He still is the muscled Lusitano, truly a Baroque horse, but there is a huge difference between before and after the program. Zartouche will always be a good doer who will easily gain weight on little feed. His diet consists of haylage, supplemented with Pavo Vital. He does very well on that. If we think he needs more, and we cannot figure out what ourselves, we know where we can ask for advice. Actually, the weight loss program was not really hard to follow. It was a new mindset. Sometimes it really felt like a push in the right direction. But the choices we made have given us an entirely different horse".



*"He is much leaner and moves much more agile."*

# Healthy weight loss for overweight horses

In preparation for the Pavo InShape Program, Pavo cooperated with a number of research partners such as the GD Animal Health on two long-term studies in which overweight horses were supervised to lose weight in a healthy way.

At Pavo, we try to convert problems we recognize in the market into a solution which helps you as a horse owner in keeping your horse healthy. Approximately 55% which is more than half of the leisure horses in the Netherlands are overweight. Based on this fact we have started a research into the effects on the horse's health and the right approach to fight the kilos.

## What was the intention?

The purpose of these two studies was to be able to determine:

- The effect of a healthy weight loss program on the sugar metabolism of horses
- Which exercise recommendations would result in a weekly weight loss of 0.5 - 1%
- How the horses would respond to the high-protein muesli, Pavo InShape, which we developed for this kind of purpose



## The studies in short

### Study 1

This study in cooperation with the GD Animal Health, focused on the relationship between obesity and insulin dysregulation in horses

- Field study among 39 overweight horses (BCS 7, 8 or 9)
- 16 of the 39 horses suffered from a disturbed sugar metabolism (insulin dysregulation)
- Duration: 6 months
- Roughage analysis
- Individual support with regard to management, exercise and feed
- Monthly measurements and weighing
- Monthly adjusted advice with regard to exercise and feed due to acknowledgements of the meantime measurements
- By means of a dynamic test, the sugar metabolism was established at the start and at the end of the study.

### Study 2

This study in cooperation with the Dutch Royal Equestrian Sport organisation KNHS focused on healthy weight loss in overweight horses.

- Field study among 11 overweight horses (BCS 7, 8 or 9)
- Duration: 4 months
- Roughage analysis
- Individual support with regard to management, exercise and feed
- Monthly measurements and weighing
- Monthly adjusted advice with regard to exercise and feed due to acknowledgements of the meantime measurements
- The blood values were tested at the beginning and at the end of the study.

## Study partners





## How have measurements and adjustments been made during the studies?

### Sugar metabolism

In the first study, all horses underwent a dynamic test in order to be able to determine the effect of overweight on the sugar metabolism. This test measured the amount of insulin in the blood after administering a dose of sugar. This test was carried out at the beginning and the end of the study.

### Exercise

During the study, the amount of exercises of the participating horses were recorded by an app which gave us a good insight into the type and amount of work the owners did with their horses. Due to this recording, we were able to provide specific advice on how to adjust the amount or type of exercise in case of insufficient weight loss.

### Feed

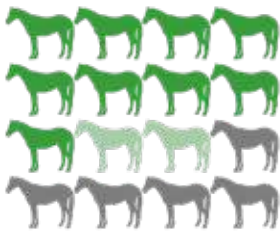
The roughage of each participant was analysed regarding the nutritional value including sugar, protein and energy contents. In this way, we were able to provide an individual feeding advice for each horse which could easily be adjusted in combination with the exercises to realise the desired weight loss.

### Good to know

During both studies no adverse side effects such as colic, laminitis or diarrhoea occurred and the protein concentration in the blood was maintained at a good level.

The last-mentioned is a good indication of a well-balanced diet.

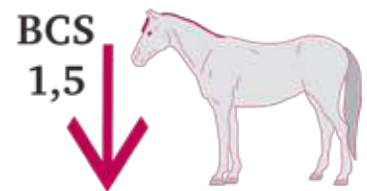
## The results



After the study was completed 9 of the 16 horses that started with a disrupted sugar metabolism (insulin resistance) had regained a normal sugar metabolism. The condition of 2 other horses had remarkably improved.

**-57 kilo**

After the first six-month study the participating horses had lost an average of 6% of their body weight. Due to an even more precise approach towards the exercise scheme, the horses that participated in the second study (a period of 4 months) had lost an average of 9.5% of their body weight.



On average the Body Condition Scores of the participating horses decreased by 1.5.

### Blood values

In total 50 overweight horses were individually supervised, 16 of which were diagnosed with a disrupted sugar metabolism at the beginning of the study. At the end of the program 9 of these 16 horses had regained a normal sugar metabolism, whereas 2 had immensely improved. In particular the decrease of the BCS - which means the subcutaneous fat layers have decreased - turned out to be the cause of this improvement. By all means a fantastic result!

### Body Condition Score

In both studies, the participating horses who all had a BCS of minimally 7 decreased on average 1.5 on the BCS scale. This is the result of the precise combination of management, exercise and feed.

### Weight

Despite the improvement of the BCS and the blood values, the weight changes were less remarkable than first anticipated. The first study resulted merely in an average weight loss of 6% after six months (the aim was between 12 and 24%). Due to a more precise and stricter exercise scheme, the second study resulted in an average weight loss of 9.5% after four months (the aim was between 8 and 16%). Some horses did not lose weight at all or even gained a few kilos. That may not be very motivational for the owner it does. However, this clearly shows that the weight should not be the leading factor in the weight loss program, whereas the BCS should be! The more you exercise your horse, the more muscle mass he will develop and muscle mass weighs three times as much as fat mass!

### Girth measurements in centimetres

Finally, in the course of the study, we noticed that the horses had significantly lower girth measurements. This can be explained by the fact that the fat mass on these measurable body parts had decreased (decrease of BCS).



*"We discovered that the so-called 'easy keepers', such as the native breeds need more time to decrease their fat mass compared with other breeds. Thus, dedication is the key!"*

**Nutritionist and veterinarian  
Veerle Vandendriessche**



## Management

# Losing weight will only succeed if you make clear agreements

To make your horse lose weight, it is very important that the management with regard to your horse is well organised. Whether you have your horse at home or in a livery stable, it is key that everyone involved with your horse is aware of the agreements concerning your horse. It doesn't work out well if you do all that you can, but others do not take account of your horse's weight loss program.



### No pasture

To make your horse lose weight, you need to know what it eats. You have to control the number of calories that your horse takes in. If your horse has a body score of 7 or higher it is important that, for the time being, he will not be put out in a pasture. Because out there, you do not control what he takes in. Some horses will gobble up in an hour the amount of grass that they should have on a whole day.

Don't think it is ok to put your horse in a field with short grass, because research has shown that precisely short grass contains much more sugar than long grass. If you have no other option, you could consider putting your horse out with a muzzle and limit the number of hours (max. 4 hours a day), to restrict the calorie intake, but only if you have no other option.

### What is allowed?

Should you keep your horse stabled? Definitely not. Have your horse outside as much as possible, for example in a sand paddock. Preferably with a friend or in a group. Together with other horses, your horse will move more than when he is out alone. A horse put out alone isn't happy. And by all means, if a horse needs to lose weight, social contacts and 'distraction' are very important.



*"Make sure your horse always has access to sufficient, fresh water. Make sure that it is not too cold. Too cold water increases the risk of colic."*

**Nutritionist and veterinarian  
Veerle Vandendriessche**

### Prevent boredom

By nature, horses will graze about 18 hours a day, so you need to offer the horse an alternative. Divide the roughage into as many small portions per day as practically achievable. We recommend 6 portions. From these, you should give the largest late in the evening.

Dividing the food into as many portions as possible is necessary to keep your horse's digestion going. To ensure that your horse can chew as much as possible during the weight loss program, you can use slow feeders or hay nets. There are many types of slow feeder available, but you can also use your own creativity: make holes in a large barrel, or put chicken wire on the roughage. Find out what suits your horse best and prevent boredom. Make sure that the surface under the roughage is smooth and in any case not sand. During the weight loss program, your horse will literally eat every last bit of hay. And you do not want him to eat sand, which can lead to a sand colic. If you do not have a paved or smooth surface, you can place for example rubber mats under the roughage.





### Salt block

Place a salt block at all locations where your horse will be, so both in the paddock and in the stable. In that way, your horse can regulate the salt intake to his own needs. Make sure though that you provide a neutral salt block. If you provide a flavoured salt block, your horse will start licking because he likes it and not because of his salt requirements. The horse will take in too much salt (and often minerals too) which can have harmful effects. So read the label carefully. Only a salt block with just salt and no added minerals or trace elements is ok.

### No winter rug

Perhaps you are used to putting a nice warm winter rug on your horse. If you want your horse to lose weight, it would be good to not put a rug on. In order to stay warm, a horse without a rug will start to burn fat. After riding, you can use a cooler rug so your horse dries faster. And you can possibly clip your horse partly, so that he dries up faster after exercising.



### Bedding

Don't use edible bedding, such as straw. By nature, a horse will eat all day long. So if straw is available, he will eat it. However, by putting him on straw, he will take in more calories than needed in order to lose weight. In addition, when your horse eats a lot of straw, the risk of impaction colic increases. It is better to use a non-edible bedding, such as shavings or flax.





## *Exercise*

# Make fat burning work



In order to lose weight, you need to temporarily convert a very positive energy balance into a negative energy balance. Put simply: your horse has to use more energy than he takes in, but this should not be at the expense of muscle mass. Exercise is important to ensure fat burning really gets going. The best approach for this depends on your horse and the situation. Sports physiologists Carolien Munsters and Irene Tosi give advice.

By means of a step-by-step plan, we will try to help you get started. Please note: every situation is different. When we talk about 'normal exercise' for a horse, this will differ per individual, depending on breed and discipline. For sport horses, normal exercise means something quite different than for leisure horses. For a leisure horse, normal exercise is that, in addition to daily hours in a paddock, he will be ridden regularly. Normal exercise is a calculation on the basis of the individual horse, taking into account his current and target weight, the environment and possible health or age-related problems.

Always carefully observe your horse and ask an expert's advice if you are not entirely sure that your horse is doing well. For that matter, you do not want to ask too much of your horse, which could lead to injuries and thus stable rest.





### **Dr. Carolien Munsters**

Sports physiologist

Carolien obtained her doctorate with a thesis on the sport physiology of the horse. By translating scientific knowledge into practice, she assists riders and coaches in improving their performance. With her company Moxie Sport, she has already helped a large number of top riders with analyses and/or support, among other things for the 2012 Olympics in London and the 2016 Olympics in Rio de Janeiro. Currently, she is helping several combinations with their preparations for the Olympic Games in Tokyo. In addition, Carolien gives courses in the field of sport physiology for horses, she works as a researcher at the Utrecht University faculty of Veterinary medicine and is an embedded scientist for horse sports (NOC\*NSF).



### **Irene Tosi**

Sports physiologist

Irene studied Veterinary medicine at the University of Milan (Italy) and after that specialised in physiologic research on horses at the Faculty of Veterinary Medicine at the University of Liège (Belgium). She lectures and supervises students in the area of physiology of sport horses. She also carries out research into the effects of exercise on muscles in the horse's body.



## Step 1

### Evaluate your horse's physical condition

First of all, it is important to know what the current condition of your horse is. If your horse is not being exercised at all, clearly, there is a lot to gain in this respect. If you do exercise your horse, then ask yourself: how fit is my horse really? The feeling of the rider and the actual fitness level of the horse may differ. Sometimes as a rider, you think you work really hard with your horse during a training session, but in practice, it is mostly the rider who works hard, while the horse's heart rate has barely gone up. The other way around can happen too. Some horses will, ears pricked forward, still happily continue with a heart rate of 180/190.

#### Fitness test

It is recommended to carry out a fitness test on your horse at some point. For a basic test and a first indication, you do not need an expert, you can easily do it yourself. The only thing you need is a heart rate monitor for your horse.

Follow the scheme below:

- 2 minutes of walking on the left rein
- 2 minutes of walking on the right rein
- 2 minutes of trotting on the left rein
- 2 minutes of trotting on the right rein
- 2 minutes of cantering on the left rein
- 2 minutes of cantering on the right rein

**Please note:** Do not walk or let your horse rest in between the trotting and cantering reprises.

Fit, conditioned horses should be able to do this basic test while staying within the 'normal' values (provided they are relaxed, because stress will make the heart rate go up). When walking, the heart rate should be between 60 and 75 beats per minute, when trotting between 90 and 110, and when cantering, between 100 and 120. If your horse has a higher heart rate, or he cannot canter for 2 minutes, then he has a poor basic condition.

#### Help! I do not have a heart rate monitor

If you do not have a heart rate monitor and you cannot borrow one, it is still worthwhile to do this test. From practice, we know that cantering for two minutes can be quite long. If your horse is unable to canter for two minutes, you will know that he will not pass the fitness test.







*Veerle: "I have good experiences with the Equilab app. The app accurately keeps track of where, for how long and with which speed you rode."*

**Nutritionist and veterinarian  
Veerle Vandendriessche**

You can download the app here: [www.equilab.horse](http://www.equilab.horse)  
The app is available for both IOS and Android.



## Step 2

### Analyse and monitor

Does your horse have a problem to complete the test or is his heart rate very high? Then, you have to start improving his basic condition. This alone will allow him burning more energy. Build up your conditioning program slowly. To do so you have to know what you have done up till now. That is why it is a good idea to first monitor a few training sessions. For instance, you can keep track of the time with a stopwatch or a stopwatch app. Check how long you are walking, trotting and cantering. For the best results you need to know the corresponding heart rate intensity. Without this data you do not know how much effort your horse requires to do this exercise.

## Step 3

### Set your target

For a good result you should train your horse four to six days a week. If you currently ride your horse two days a week only, don't start riding six days immediately but build this up slowly. If a horse is completely unconditioned (a young horse, or a horse that hasn't done anything for a long time), it can take several months up to one year before this horse can work six days a week for an hour per day. So, don't set your targets too high but increase the training intensity by small steps. If your horse is indeed fit, you can ask for more.

## Step 4

### Start training

Now that you know what the condition of your horse and your goal is, it is important to build up the training sessions. First the frequency, then the duration and finally, the intensity.

To help you getting started we created two different training schemes for the training build-up. One for an untrained, unfit horse and one for horses that have passed the fitness test. On the following pages you will find the training schemes and tips. On the basis of the fitness test, choose the scheme that suits your horse, read the advice of Carolien Munsters and start training.

*Did you know that...*

**Your horse does not always work as hard as you do?**

When you have to work hard during riding you might have the idea that your horse is working really hard too. But that doesn't have to be the case. So, make sure you do not automatically assume that when you are tired, your horse will be tired too. Some horses can be quite fit for the basic work (see the fitness test) and give you the impression that they are working really hard whereas they are working only moderately hard. If you are not aware of this, it could be the case that your horse is never working really hard. In that situation, you have to consider giving him a more intense work-out two to three times a week. Also, you have to be aware of the fact that your horse does not need more feed if it is not really working hard.

## The unconditioned horse

A good build-up of the training is important when your horse hasn't worked for a long time. This could be because of an injury or because he was staying at the pasture for some time. Exercise physiologist Carolien Munsters provides advice.

1. Start with riding or lunging 2 to 3 times a week for about 20 to 30 minutes. If you choose to lunge your horse, you do not necessarily have to use side-reins. Carefully observe your horse. For some horses lunging without side-reins is sufficiently intensive. However, do make sure that your horse uses his body well and is not just trotting around. For other horses, using long-reins or side-reins is recommended.
2. Start every training session with a warm-up of 5 to 10 minutes walking, followed by short periods (a few minutes) of trotting, alternated by going back to walk for some moments of recovery.
3. For young horses or unconditioned horses cantering is considered to be a power training. In the beginning you should canter your horse for about 30 seconds. Slowly increase the frequency of the canter reprises OR the duration of the canter reprises.
4. Between the training sessions, you should schedule active recovery days which can be pasture or paddock time, ground work or walking on the lunge. On a recovery day your horse should definitely not be stabled the whole day.
5. Take your time to build up the training. If a horse has not been exercised for a long time, or hasn't been conditioned at all, it can take some weeks up to a few months before you can ride him 4 to 5 times a week for 30 minutes.
6. Make sure that your horse is allowed sufficient free movement in addition to the training sessions. For example, put him out in a paddock with younger or more active horses or give him some toys. If you exercise your horse for an hour but it is stabled for the remaining 23 hours, your training will not have any effect.

To help you get properly started, Dr. Carolien Munsters has developed a training scheme for the first 4 weeks that you start training (again).

### Tip!

*It is important that your horse enjoys the work. Make sure that you vary sufficiently. If possible ride your horse and do not lunge too much. Use cavalletti exercises every now and then or ask someone to go hacking with you.*



## Example training scheme 'Unconditioned horse'

by Dr. Carolien Munsters

Unconditioned = a horse that has not or hardly been ridden or lunged for some months (<1 x per week)

1	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	Training (20-30 min) Walk: 5-10 min Trot: 3 x 2 min alternated with a 2 min walk Canter: 2 x 30 sec alternated with a 2 min walk Cooling down; 5 min walk	Active recovery day	Active recovery day	Training (20-30 min) Walk: 5-10 min Trot: 3 x 2 min alternated with a 2 min walk Canter: 2 x 30 sec alternated with a 2 min walk Cooling down; 5 min walk	Active recovery day	Active recovery day	Training (20-30 min) Walk: 5-10 min Trot: 2 x 4 min alternated with a 4 min walk Cooling down; 5 min walk
2		Training (20-30 min.) Walk: 5-10 min Trot: 4 x 2 min alternated with a 2 min walk Canter: 2 x 30 sec alternated with a 2 min walk Cooling down; 5 min walk	Active recovery day	Active recovery day	Training (20-30 min) Walk: 5-10 min Trot: 2 x 4 min alternated with a 4 min walk Cooling down; 5 min walk	Active recovery day	Training (20-30 min) Walk: 5-10 min Trot: 4 x 2 min alternated with a 2 min walk Canter: 2 x 30 sec alternated with a 2 min walk Cooling down; 5 min walk
3	Active recovery day	Training (20-30 min) Walk: 5-10 min Trot: 4 x 2 min alternated with a 2 min walk Canter: 3 x 30 sec alternated with a 2 min walk Cooling down; 5 min walk	Active recovery day	Active recovery day	Training (20-30 min) Walk: 5-10 min Trot: 2 x 5 min alternated with a 5 min walk Cooling down; 5 min walk	Active recovery day	Training (20-30 min.) Walk: 5-10 min Trot: 4 x 2 min alternated with a 2 min walk Canter: 3 x 30 sec alternated with a 2 min walk Cooling down; 5 min walk
4	Active recovery day	Active recovery day	Training (20-30 min) Walk: 5-10 min Trot: 4 x 2 min alternated with a 2 min walk Canter: 4 x 30 sec alternated with a 2 min walk Cooling down; 5 min walk	Active recovery day	Training (20-30 min) Walk: 5-10 min Trot: 4 x 2 min alternated with a 2 min walk Canter: 4 x 30 sec alternated with a 2 min walk Cooling down; 5 min walk	Active recovery day	Training (20-30 min) Walk: 5-10 min Trot: 2 x 5 min alternated with a 5 min walk Cooling down; 5 min walk

- Do you want to expand the scheme? Make sure you repeat every training at least 2 to 3 times before you intensify the training.
- Choose by training type how you want to intensify it; make sure you do OR and not AND AND (i.e., sometimes you add an extra interval to the trot sections, so you go to 5 x 2 min trot, and only 2-3 training sessions later, for example, you extend the duration of the canter sections to 4 x 40 seconds of canter). Small steps are essential here.
- Then, vary in duration and frequency. For example, 4 x 2 min trot = total 8 min trot. The next more intensive training can be 5 x 2 min trot (total 10 min trot) or, if you want more endurance just go to 3 x 3 min trot (total 9 min). Both trainings can be a good continuation of your training program, depending on your horse and what fits best at that moment.



## Training tips

# Losing weight with a fit horse

If your horse is already fit (he has no problems with the fitness test and can easily do 60 minutes of basic dressage 4 x a week), then it is important to ensure that the fat burning process increases. Endurance training is still a good basis. However, you have to add strength training. Only adding extra meters will not help your horse lose weight for that matter. This does not burn any extra calories.

The advice is to do **3 endurance training sessions of 1 or sometimes 1.5 hours a week** (for example, during hacking), including a sufficient amount of cantering (at least 4 minutes per 60 minutes of exercise). Furthermore, **add 2 to 3 more intensive training sessions**. These training sessions may be shorter of duration but have to be more strenuous.



### Tips for an intensive training

- Make lots of transitions. Ride your horse a few strides firmly forward and take him back. Ride **many transitions in a very short time**: from canter to walk, from walk to canter. If your horse can't do this, it is ok to ride transitions from walk to trot, or from trot to canter. Ride these transitions for 30 to 60 seconds and alternate with walk or trot reprises of 1 to 2 minutes. Repeat this exercise 3 to 4 times.
- Ride **cavaletti/poles exercises in trot or canter**. Here again, 4 x 30 seconds minimum, alternated with 1 to 2 minutes recovery in walk or trot.
- Put **several cavaletti in a straight line** (for example 3 to 4 in-outs, or 2 small jumps at 2 or 3 strides) and repeat this several times in a row.
- During a hack, ride **1 to 2 minutes in a good medium canter**. Please note: do not ride as fast as you can. It should be a controlled and collected medium canter. Subsequently allow your horse some time to recover. Repeat this exercise 1 to 2 times.
- **Training uphill**. You do not really need actual hills to do an uphill training. Walking over a fly-over can be sufficient. You should do this a number of times (4 to 6 times). You can easily include this exercise while you are cooling down your horse: cool down your horse on the road, try to find a fly-over and cross it several times.

### Tip!

*It is important that your horse keeps enjoying the work.  
Make sure that you vary sufficiently. If possible, ride your horse and do not lunge too much.  
Use cavaletti exercises a few times a month or ask someone to go hacking with you.*

## Owner's experience

### "Tina became bad tempered and vicious in order to get feed"

Monique Haaijer: "Basically, from the moment I got her Tina has always been too heavy. She has always been out in the pasture and was given extra feed on top of that. You could see other horses taking a nap and relaxing while Tina was always eating. If she gets the chance, her head is 'glued' to the ground all day long."

#### Feed

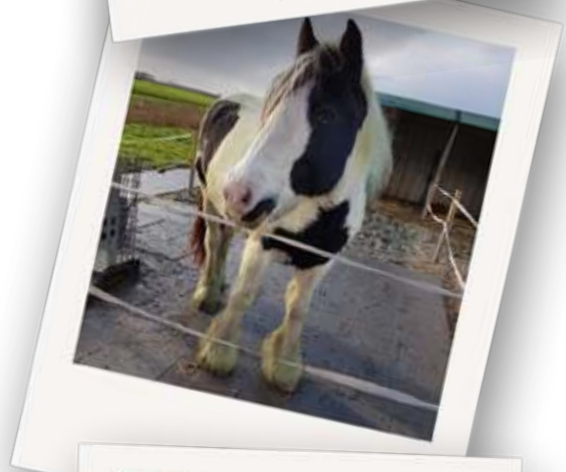
"The first change was to take Tina out of the pasture. We had her examined and found out that she suffers from insulin resistance, so grass is really not good for her.

We had the haylage tested and accurately weighed all the portions. Tina definitely was not happy that she got less feed overnight. She became really bad tempered. If I passed the feed, she would bite me to get it. When people came to feed her, she would even attack them. She was a real grouch. At that time, I thought 'Poor animal, what am I doing to you?' Her behaviour became really extreme. That is why after some consultation, we slightly increased the quantity of feed. Her behaviour improved but she still was cross. I love hacking, but that was difficult during that time. She would do anything to get to the grass."

#### Happy fit horse

"The vicious behaviour lasted three to four months, but I am really happy that I persevered. From a vicious mare, Tina changed into a happy, fit horse. I am thrilled! She has never been like this before. She is still obsessed with food but is no longer vicious. She is just much happier. Before the weight loss program, she was a slowcoach but now she is fit and occasionally I see her running and bucking in her paddock.

We still need to pay close attention to her diet. She just loves to eat. So, we still weigh the hay. But that is ok. I am so happy that I persevered with the weight loss program for my horse."



*"She changed from a lethargic slowcoach into a fit horse."*



NUTRITION

## *Nutrition*

# Know what your horse eats

When you want your horse to lose weight, creating a negative energy balance is the most important thing. In other words: your horse has to use more energy than he takes in. If you want that to happen, you have to know exactly how much his intake is in order to achieve a certain calorie deficit. Vandendriessche, equine veterinary surgeon and nutritionist, gives advice.

The number of calories your horse is allowed to take in depends on various factors such as breed, age and how much your horse exercises and moves around in his paddock. Your horse gets most energy and calories from roughage: grass, hay or haylage. With 70 to 100%, roughage is the basis of the horse's diet. Roughage is important to keep your horse healthy! Every horse should have an intake of dry matter from roughage of at least 1.5% of its body weight daily. This means, an adult horse of 600 kg needs well over 10 kg hay a day.

*Tip!*  
*Do a roughage analysis for a precise  
determination of the values in your roughage.*





### Veerle Vandendriessche

Nutritionist and veterinarian (Diplomate ECVN)

Her title Diplomate of the European College of Veterinary and Comparative Nutrition (ECVCN) shows that she is one of the absolute world class nutritionists. Veerle has specialized in horses and pets and is one of 36 European 'Diplomates', only two of whom are engaged fulltime with horse feed.

## Restrict roughage

Most horses that need to lose weight take in too much feed. The rule of thumb for horses that need to lose weight is: in the first place, restrict the roughage to 1.5 kg dry matter per 100 kg body weight. Dry matter is the part of the roughage that remains when all moisture has been removed.

It is important to know the values of the roughage you give to your horse. In the light of this, the dry matter content varies a lot depending on the roughage product. Grass for example, has on average a dry matter content of 20 to 25%, haylage on average 60 to 70% and hay on average 80 to 90%.

Further, the sugar content in the roughage can also vary substantially. Generally speaking, long stemmed hay is best. Often, that is a late cut which is not the same as a second or third cut but a cut which allows the grass to grow for a very long time. In some cases, this is also called bolted grass.

*Have your horses' teeth checked before you start with the weight loss program. Only with good teeth your horse will be able to optimally take in the roughage.*



## How much roughage can I give my dieting horse per day?

Based on average values, the daily roughage advice is as follows:

Please note, for the best advice it is essential that you know the values of your own roughage. we recommend having a roughage analysis carried out. That way, you can also determine whether your horse might need extra feed in addition to the roughage.

Bodyweight	Recommended maximum daily dry matter intake	Grass (23% dry matter)	Haylage (67% dry matter)	Hay (88% dry matter)
100 kg	1,5 kg	6,5 kg	2,2 kg	1,7 kg
200 kg	3 kg	13 kg	4,5 kg	3,4 kg
300 kg	4,5 kg	19,6 kg	6,7 kg	5,1 kg
400 kg	6 kg	26,1 kg	9 kg	6,8 kg
500 kg	7,5 kg	32,6 kg	11,2 kg	8,5 kg
600 kg	9 kg	39,1 kg	13,4 kg	10,2 kg

Divide the roughage into approximately 6 portions per day. By doing so, you will prevent your horse from getting bored. Give the largest quantity in the evening because your horse will not get anything until the next morning. You can't manage to feed your horse 6 times a day? Then, see what you can achieve and divide the portions proportionally to the number of hours in between the meals. Never leave your horse without access to roughage for more than 6 hours.

As you measure your horse on a weekly basis, you will have reliable information about his weight loss. When your horse loses between 0.5% and 1% of his body weight per week, you are on the right track.

## Cross or impossible to drive forward?

Is your horse moody or extremely lazy during your training session? Note that this will pass! At some point your horse will have an energy dip. Its body is used to getting its energies out of the so called fast sugars. It takes a while until its body will get used to getting energy from other places. An energy dip or a moody horse can be the result of this.

Supposing that the energy dips lasts longer than a month, contact your vet.

*Tip!*

*Always weigh your roughage. For that purpose, you can use a steelyard balance or weigh beam.*

Write down in the workbook exactly how much you give your horse!

Week	Week number	Amount of roughage	Additional food
0 (start)			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
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19			
20			
21			
22			
23			
24			
25			
26			



## Feed supplements

### Low protein roughage: supplement

There is another reason why it is vital that you know the nutritional value of your roughage. A horse that is on a weight loss program needs sufficient proteins. Should a roughage scan show that your roughage has a low protein content, it is important to supplement proteins. The result of the roughage analysis clearly indicates whether the protein content is insufficient for a horse that needs to lose weight.

#### Pavo InShape

Pavo InShape has especially been developed for horses that need to lose weight. It is rich in proteins and contains all required vitamins and minerals. Due to this, you can be sure that your horse gets everything he needs.

Read more about Pavo InShape on the page 26.



#### Pavo Vital

If the roughage scan shows that your roughage contains sufficient protein for your weight losing horse, it is still necessary to provide your horse with extra vitamins, minerals and trace elements. In that case, consider the vitamin and mineral balancer Pavo Vital.

### Treats

The small treats in between are the things you really have to be careful about. Perhaps you are used to giving them. However, these all contain calories which you can better give to your horse in form of roughage as this will keep your horse busy for a longer period of time. Do you really want to treat your horse? Then, consider Pavo Healthy Treats.





*"The feed or rather the roughage supplement has to be carefully weighed. For that matter, a feed scoop does not always equal a kilo. To know exactly how much you give, you need to weigh. Divide Pavo InShape or Pavo Vital into 2 to 4 portions a day."*

**Nutritionist and veterinarian  
Veerle Vandendriessche**



## Variation

If you want to offer your horse some variety in his ration, Pavo SpeediBeet is a good alternative. It contains few calories but really fills the stomach. After a meal of Pavo SpeediBeet, your horse will be satisfied for a long period of time and will not be looking for feed immediately.

## Alternative

Instead of hay, you can put some Pavo HayChunks in a hay net for your horse. HayChunks are healthy horse treats on a basis of grass and other botanical fibres. Horses spend more time when eating the HayChunks compared to eating normal hay. A Pavo HayChunk can also be used as a treat.



**Do you want more information about these products?  
Then go to the Pavo website.**



# Pavo InShape

Prevent muscle wasting during a weight loss program



Feed is one of the three pillars of the Pavo InShape Program. When you are trying to make your horse lose weight, it is - just as in people - important to prevent muscle wasting. As your horse will exercise more, the muscles will be put to work. Extra protein is required to help the muscles recover after exercising and to prevent muscle tissue from being used as a replacement energy source, which will cause muscle wasting. You could compare this with a protein shake that people take when we, perhaps all of a sudden, start to exercise more. With Pavo InShape, your horse will get all he needs in addition to his roughage.

## Optimum feed support for the Pavo InShape Program

Pavo InShape is a completely vitaminised muesli with natural antioxidants and especially developed to optimally support horses during a weight loss program. In addition to a unique high-quality protein (methionine) that supports fat burning, Pavo InShape also contains an extra high amount of protein to help the muscles to recover after exercise and to prevent muscle wasting. Furthermore, with Pavo InShape, you will give your horse all the daily required vitamins, minerals and trace elements and it is free of cereals. As a result, the sugar, starch and energy levels are very low. When you are fighting overweight, it is essential that your horse does not get any extra energy. Moreover, the low sugar and starch levels will support horses with a disrupted sugar metabolism, which is often caused by overweight.

## Important properties

- Part of the Pavo InShape Program
- Optimal support during weight loss
- High-quality protein (methionine) to support fat burning
- Extra high protein content to promote muscle recovery and prevent muscle wasting
- Complete daily vitamins, minerals and trace elements
- Free of cereals
- Very low sugar and starch content
- Very low energy content

## Application

- For horses and ponies that actively take part in a weight loss program
- For horses and ponies that participate in the Pavo InShape Program

## Feeding advice

In addition to roughage, give daily 150 grams Pavo InShape per 100 kg body weight when you are following the Pavo InShape Program in order to allow your horse to lose weight. For a pony (300 kg) this means 450 grams per day, for a horse (600 kg) 900 grams per day. If possible, distribute this quantity over several meals a day.

- Daily advice: 150 gr/100kg body weight



# Why am I doing this?

We know from experience that sooner or later you will reach a point where you are about to give up. Your horse is cross, you can't ride him forward during exercise or you are totally fed up with having to weigh everything and tell everybody to stop giving your horse extra treats. This is why it is good to stop and think why you actually started the weight loss program.



*Know that you are not alone. Many horse owners are having a tough time at getting their horses skinnier.*



*"When you are trying to make your horse lose weight, it is important to prevent muscle wasting. Extra protein is required to help the muscles recover after exercising and to prevent muscle tissue from being used as a replacement energy source, which will cause muscle wasting."*

**Nutritionist and veterinarian  
Veerle Vandendriessche**



## Share your experience

Sometimes, sharing experiences or exchanging tips can help. For that reason, we set up a special Pavo InShape Program Facebook Group. You can join the group (free of charge) and share your pitfalls and tips and benefit from the experiences of others!

**Facebook/Pavo InShape Program**

## Benefits

What are the benefits of your horse being in the right condition?

- Your horse will have more energy and be full of high spirits.
- Healthier blood values
- You will be able to enjoy a longer and happier life with your horse.

## Personal feeding advice

Are you unable to get your horse's feed right: does your horse lose too much weight or no weight at all?

Then, don't hesitate to contact one of our experts.

Mail to: [info@pavo.net](mailto:info@pavo.net)

Or call: +31(0)485-490700



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