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Stable Light Programs and Applications

CONTENTS

Maximise Fertility

Advancing cyclicity in the non-pregnant mare (including maidens)

The **Long Day** program should be initiated between November 15th and Dec 1st (Northern Hemisphere (NH)) or between June 15th and July 1st (Southern Hemisphere (SH)) over non-pregnant mares to advance seasonal reproductive activity. On average it takes 70 days of Long Day light therapy to advance the first ovulation in time for the start of the breeding season.

Important points to note: Prior to the initiation of the **Long Day** program, non-pregnant mares should be maintained under the **Short Day** or **Reflect** program if stabled, or kept outdoors under natural light conditions. Mares need to have experienced at least 6-8 weeks of a shorter winter daylength in order to optimally respond to a **Long Day** light regime.

It is recommended that mares continue to be maintained under the **Long Day** program until they are scanned in foal, or until the end of the breeding season.

Optimising gestation length & post-foaling fertility for the pregnant mare

The **Long Day** program should be initiated for the pregnant mare 100 days prior to their foaling due date, or no earlier than November 15th (NH) /June 15th (SH). Pregnant mares can be maintained under the **Long Day** program until they are scanned back in foal, or until the end of the breeding season.

Important points to note: At the end of the breeding season (June in NH/December in SH), mares should once again be exposed to the natural daylength or maintained under the **Reflect** of **Short Day** program.

Optimising early season fertility for stallions:

The **Long Day** program should be initiated for stallions approximately 70 days before peak reproductive activity is required. For best results in advancing reproductive performance, ensure the stallion has been exposed to a shorter winter daylength using the **Reflect** or **Short Day** programs prior to transition to Long Day.

Optimise Performance

Optimising coat condition for spring/summer shows

The **Long Day** program should be initiated at least 8 weeks prior to time of desired optimum coat condition.

Optimising coat condition for autumn/winter shows

To maintain a short summer coat into the autumn/winter period the **Long Day** program should be initiated on, or soon after, the summer solstice (June 21st in NH, Dec 21st in SH).

Important points to note: Coat shedding is a circannual rhythm in the horse. It is not possible to completely prevent a horse/pony from growing a heavier coat at some point in the year. In order to maximise coat condition during the show season, it is important to provide a shorter winter daylength for 8-10 weeks at some point between the autumn to spring period and schedule this for a quieter time in the show schedule.

Adequate blanketing during cold conditions is also required for optimum coat condition.

Optimising health and athletic performance throughout the year

The **Circannual** program optimizes daylength durations throughout the year for the performance horse. This program automatically changes the duration of bright white daytime light by adjusting the timing of sunset (dim down to red light at night) to provide an extended period of summer daylength, a shorter period of winter daylength and two transition periods that mimic spring and autumn daylength changes. This program was designed to optimise the daily and annual health and performance of horses.

When setting this program, the Sunrise Time needs consideration. Sunrise Time refers to the time when the white daytime light reaches full brightness, following the dim up from red light (this takes 20 min). Sunrise time should be set as the time that full activity is initiated in the stable and when horses are required to be alert and ready for the day. Sunrise time can be adjusted in the winter months if a later morning start is required.

The **Circannual** program replicates the four seasons (based on a customised sunrise time) and includes the following:

- An 8-week winter daylength (11 hours, 10 min)
- A 10-week transition to summer daylength (sunset occurs 5 min later each day until a max daylength of 17 hours, 10 min is reached)
- A 24-week summer daylength (17 hours, 10 min)
- A 10-week transition to winter daylength (sunset occurs 5 min earlier each day until a min daylength of 11 hours, 10 min is reached)

Important points to note: Each daylength period is preceded and followed by a 20 min dim-up and dim-down light transition that mimics dawn and dusk.

Summary of Programs

Short Day:

The duration of full brightness “day light” is 11 hours 10 min with 20 min dim-up and dim-down transitions on either side.

Long Day:

The duration of full brightness white “day light” is 17 hours 10 min with 20 min dim-up and dim-down transitions on either side.

Circannual:

This program optimizes daylength durations throughout the year for the performance horse. The program automatically changes the daylength durations by adjusting the timing of sunset (red light transition) to provide an extended period of summer daylength, a shorter winter daylength and two transition periods that mimic spring and autumn daylength changes.

Graphs of the Circannual Program Overview can be found on the next page.

Reflect:

This program is based on geographical location and will mirror the sunrise and sunset time associated with the natural light cycle. 20 min dim-up and dim-down transitions will occur either side of natural sunrise and sunset times. This program requires a WiFi connection during initial set-up.

Custom:

This program allows the user to customize the daylength (duration of full brightness white “day light”), set a daytime interval when lights are off, and disable the red light at night. For example, if user wants lights to stay on full brightness “day light” from 7am to 7pm each day, by setting the Daylength to 12 hours and sunrise time to 07:00, lights will start to dim down to red at 19:00. If there is a regular period each day when horses are not in the stables, the user can use the interval option to turn lights off between specified hours.

NB: This should only be used when horses are routinely out of the stables during the specified time. The Custom program also gives users the option to deactivate the red light at night function.

Remove:

Unassign a light’s program and deactivate the light. The light remains paired to the controller and can have a new program re-assigned at a later time.

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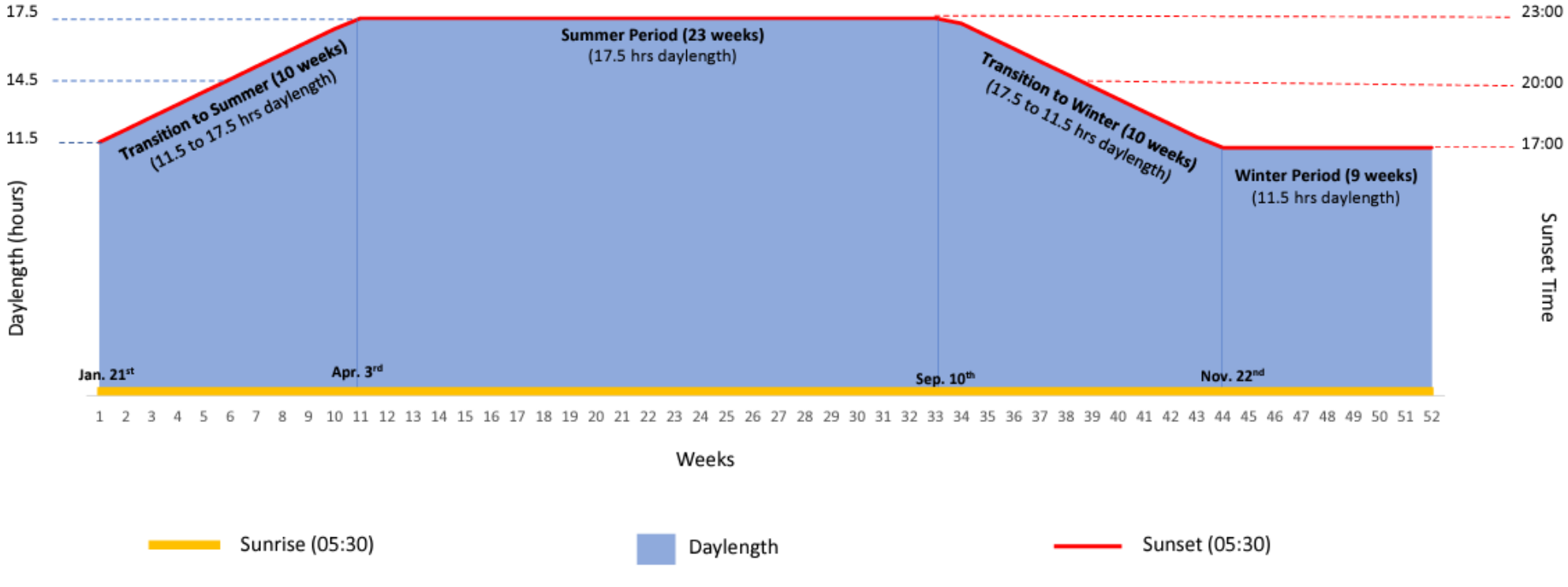
Equilume Stable Light

'Circannual' Programme



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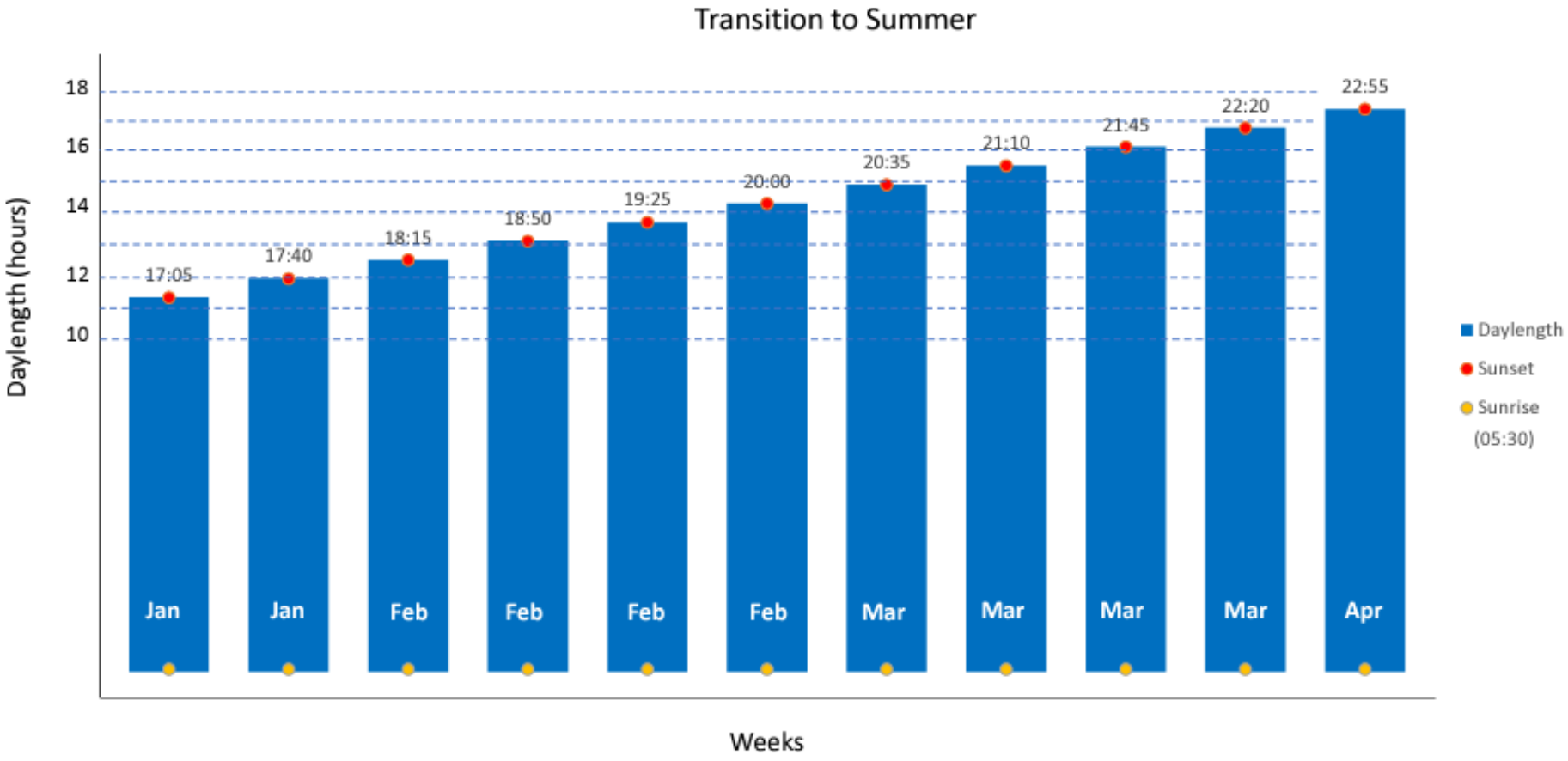

Summer period (17.5 hrs daylength) starts on April 3rd and lasts until September 10th (161 days)

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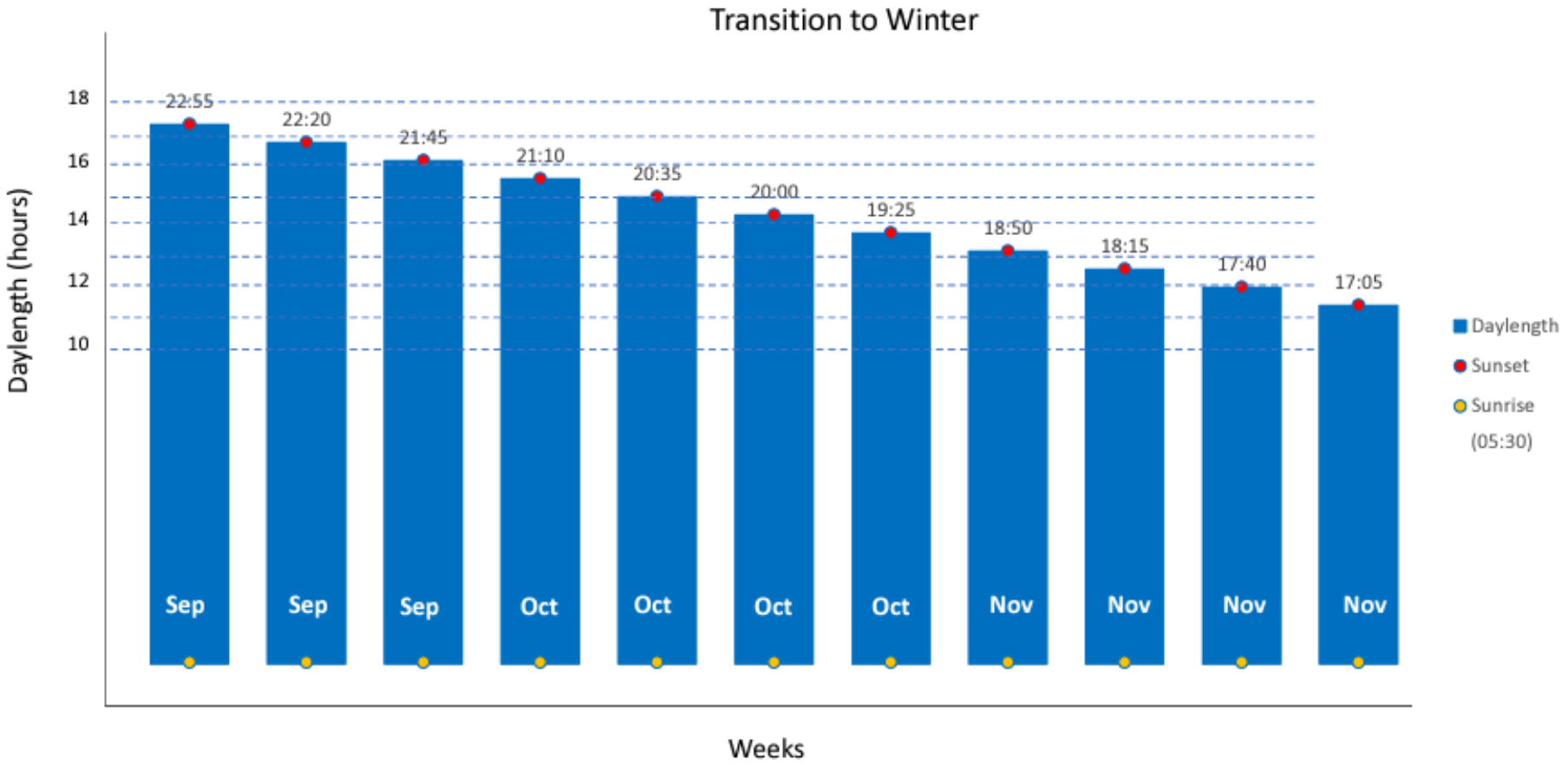

Winter period (11.5 hrs daylength) starts on November 22nd and lasts until January 21st (61 days)