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## SUMMER FORAGE OPTIONS to exploit the rains

### KOW KANDY

Kow Kandy is a Sorghum x Sudan Grass (SxS) hybrid. Over the years Kow Kandy has earned the well deserved reputation to be one of the best spring and summer annual forage crops which could be included into a fodder programme.

Kow Kandy was originally developed in the early 1960's. The female line, a sorghum, was bred and selected for sweetness, drought tolerance, rapid re-growth and a high leaf-to-stem ratio. The male line, a sudan grass, was selected for its sweet stems or stalks and its high leaf production. To stay a step ahead of other SxS hybrids the breeding programme (genetic selection) of Kow Kandy is still ongoing. In the late 1970's greenbug resistance, and in the early 1980's downy mildew resistance was bred into Kow Kandy. In the early 2000's the production potential of Kow Kandy was improved/"pepped-up".

In short: Kow Kandy will always be a step ahead of the rest. A must in any grazing programme.

Kow Kandy is drought resistant and has excellent re-growth characteristics (**Figure 1**). Kow Kandy starts and ends the season a notch above the rest. Grazing can commence sooner and continue for a longer period. Add to this its sweet nutritious stalks (when in the vegetative stage), its abundant leaves and excellent palatability. With all these characteristics it is not surprising that heifers average a growth of 1.01kg / day over a 100 day grazing period (**Photo 1**), with a grazing potential of 8 heifers / ha for the period.

Figure 1: Average dry matter (DM) p/day

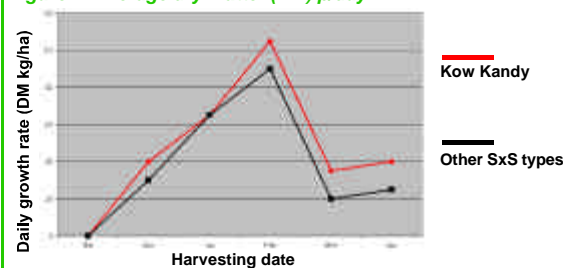


Photo 1: Heifers grazing on a Kow Kandy pasture

Kow Kandy makes excellent hay when managed properly and harvested at the proper stage (**Photo 2**). Best results could be expected when the crop is cut when still in the vegetative stage, before seed heads appear, as this will ensure a leafy (high protein), sweet (high energy) and palatable hay. The sweetness and natural fineness of the stalks will encourage livestock to consume the stalks as well as the leaves of the hay.



Photo 2: Well managed Kow Kandy

### Kow Kandy management tips:

Sow Kow Kandy seed into a damp seedbed (wait for rain), when the soil temperature is 15°C or higher. If seeded into a "cold" seedbed, root development is slow and the crop can be lost. Sow seeds 2 - 6cm deep.

Start grazing Kow Kandy when the plants reach a height of 60 - 90cm, this will allow sufficient root development and reduce "pulling-out" of plant. Sub-subsequent re-growth is grazed when plants are 45 - 60cm tall. Best results could be expected with smaller camps and a rotational grazing system.

### Seeding rates for grazing:

- 90 - 100cm rows - 12.5kg / ha
- 50 - 60cm rows - 25.0kg / ha
- Broadcast - 25.0 - 37.5kg / ha

### Seeding rates for hay:

- 90 - 100cm rows - 25kg / ha
- 50 - 60cm rows - 25 - 37.5kg / ha
- Broadcast - 25 - 50kg / ha

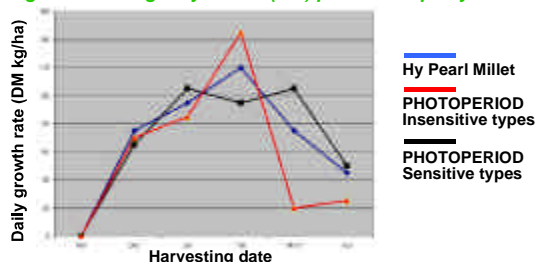
### HY PEARL MILLET

Hy Pearl Millet is a *Pennisetum* hybrid that was developed as the ideal prussic acid-free summer pasture crop. Thus a pasture that can be utilized by beef and dairy cattle, sheep and horses.

There are two distinct genotypes within the Pearl Millet group of warm season annual grasses (*Pennisetum typhoides*) - those with grain and those with forage production potential. The pearl millets with forage potential were subjected to selection

and cross breeding, resulting in the development of the hybrid pearl millets (crossing with other *Pennisetum* spp.). Within the hybrid pearl millet group, two growth types can be distinguished – photoperiod, or day length insensitive and photoperiod sensitive types. Photoperiod insensitive types (short day types) mature early and will run to seed in late summer, whilst the photoperiod sensitive (long day types) mature late summer to early autumn. Thus, the photoperiod sensitive types should have a longer grazing period, but not necessary produce more fodder per ha. **Figure 2** clearly illustrates that Hygrotech's Hy Pearl Millet is an intermediate growth type.

**Figure 2: Average dry matter (DM) production p/day**



In the late 1980's the BMR genotype was induced into the pearl millets. Plant material of the BMR mutants (maize, sorghum, sudan and now pearl millet) have lower lignin and higher digestibility values than their normal counterparts. Trial data from America would indicate that lambs preferred the BMR Pearl Millets and intakes and growth rates were higher. Hygrotech will be trialling its own BMR Hy Pearl Millet this season – seed should be available in 2008.

Forage pearl millets are highly drought tolerant and perform well on soils low in fertility (sandy to loamy-sand soils), low pH (5.5) and can tolerate saline soils. Hybrid Pearl Millets are leafier, produce more tillers, have higher re-growth yields and are generally shorter than the standard Pearl Millets (**Photo 3**). The Hybrid Pearl millets are excellent multi-purpose crops – grazing, haying, silage, cover, soil builder and rotation (nematode control) crops.



**Photo 3: Hybrid pearl millets can grow taller than 2m**

Hy Pearl Millet has an exceptional re-growth potential after grazing. Best results could be obtained when Hy Pearl Millet is subjected to a relatively frequent (1 x every 3 - 4 weeks) but lenient defoliation; allow 15cm stubble to ensure proper tillering and faster re-growth. The crop should be allowed to grow 45 - 60cm tall before grazing commences (**Photo 4**) – nutritional quality and intake will decline if crop is allowed to grow taller.



**Photo 4: A well managed Hy Pearl Millet pasture**

Hy Pearl Millet has an excellent hay making potential. To ensure high quality hay, that cures fast and is very palatable, cut when 50 - 70cm high (mainly leaves and no stem). Avoid cutting below the apical meristem (10 - 20cm above ground level) to ensure multiple harvests (4 or more per season). Dry matter yields of 6 - 12ton DM / ha have been measured, with the odd 22 ton DM / ha for a well managed crop under irrigation.

**Hy Pearl Millet management tips:**

Sow Hy Pearl Millet in a damp seedbed, after rain or irrigation. Avoid planting when soil temperatures are below 15°C. Hy Pearl Millet is not frost tolerant and does not produce volunteer plants in the following season. Seeding depth 0.5 - 3.5cm with the optimum of 1 - 2cm.

**Seeding rates for grazing:**

- 90 - 100cm rows – 2 - 4kg / ha
- 35 - 60cm rows – 3 - 5kg / ha
- Broadcast – 5kg / ha

**Seeding rates for hay:**

- 90 - 100cm rows – 3 - 5kg / ha
- 50-60cm rows – 5 - 8kg / ha
- Broadcast – 8 - 12.5kg / ha

**General fertilization guidelines for Kow Kandy and Hy Pearl Millet:**

Fertilizer application rates are determined by rainfall - utilize the higher rates in high rainfall areas, or if the crop is irrigated.

- N:** 100 - 200kg / ha, in split applications. Apply ca 30% when planting and the rest in equal portions after each utilization phase (ca 3 - 4 x over the season)
- P:** 30 - 60kg / ha, at planting
- K:** 50-90kg / ha, apply at planting on heavy soils or split applications on sandy Soils.