

saliva even when the mucopolysaccharides it contains are removed.

Reasonable amounts of free hormone can be determined quite quickly in urine by this technique. The concentrations may vary greatly from one horse to the other and probably in the same horse according to time. However the concentration in stallion urine is greater than in urine from mares or geldings and the amount of hormone seems to decrease with age.

Occasionally, high concentrations were found, above 1000 pg/ml, and only in stallion urine.

Storage of urines with preservatives like merseptyl act well, but it is worth keeping the urines at 4°C when possible.

Routine testing can be done as large number of determinations can be performed in the same series (about 25).

## DISCUSSION

**JONDORF:** We have started testing some routine samples, not all from winners just a population of post-race samples. I find using the nortestosterone antibody that there are consistencies on the base lines for the geldings and mares but the stallion population of urines is identical with what you have. There appears to be two types of urine, as you have found using the testosterone antibodies and we find likewise using the nortestosterone antibodies. We do not know the explanation and do not find it related to age.

**JOUANY:** Among these 155 samples just one was about 1,200 so was suspected to be the consequence of a dope, but perhaps it is a special horse with 1,200 picograms of testosterone — an exception.

**JONDORF:** Because we found this great variation in stallion urine, we collected a series of samples from a normal stallion at the Equine Research Station, to see if there was some internal consistency from the same horse, and we found that there was. There did not appear to be any great diurnal variation in the materials reacting with nortestosterone antibodies in the horse.

**HOUGHTON:** Is your antibody specific for testosterone?

**JOUANY:** I am not sure. I forgot to say that we tried the method with blood and it works well, but it is impossible with saliva. We found 3,000 picograms per millilitre of saliva of the mares but that is probably not normal and was because of the mucopolysaccharides of the saliva which interfered very powerfully, so for radioimmunoassay of saliva you have to get rid of these mucopolysaccharides.

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