



Bio-Security Module BSM11:

OSTRICH DRINKING WATER MONITORING

(Version 3.3: February 2012)

OBJECTIVE

To provide prescriptive guidance on the monitoring of drinking water quality and the extent to which drinking water systems are kept clean and maintained in accordance with the requirements set out in BSM10 and maintenance of drinking water systems for ostriches. This BSM11 should be used in conjunction with BSM10: Ostrich Drinking Water Treatment

DRINKING WATER SYSTEMS

This BSM specifies the requirements for the monitoring of drinking water quality on registered ostrich farms.

1. Drinking water quality (pH and free chlorine) should be tested at least once per week (preferably twice per week) at point where the source water is treated and at the drinking water trough closest to the chlorine dosing system and at the drinking water trough furthest from the chlorine dosing system. The measured data must be checked by the farmer to determine whether or not it complies with the requirements set out in BSM10. If not, the necessary adjustments to the drinking water treatment system must be made.
2. Measured drinking water quality records must be stored by the farmer for at least 2 years for access and review during farm audits.
3. In order to be able to determine whether or not water disinfection is happening on an ongoing basis, it is necessary to determine the volume of drinking water consumed by ostriches and the amount of disinfection chemicals purchased by the farm owner. This exercise can be undertaken in any of the following ways (while options 3.1 and/or 3.2 are preferred as they are more accurate, certain farm layouts may make this option impractical in which case option 3.3 will be applied):
 - 3.1 Flow rate of the water consumption in each separate drinking water system that is supplied via pipeline (separate drinking water system is defined as a system with its own water treatment systems) can be measured and recorded on a monthly basis, using a totalising flow meter.
 - 3.2 Farms which supply drinking water through water carts can keep records of how many full water carts (and volume of water carts) are supplied to the ostriches each month.
 - 3.3 An estimate can be made of volume of drinking water consumed by applying average water consumption figures per ostrich age group in accordance with the monthly ostrich register and data provided in Table 1 of this BSM.
4. The ostrich drinking water consumption will be checked by the Auditor (see BSM 21) in order to make an assessment as to whether or not water disinfection is happening on an ongoing basis.
5. Invoices, made out in the name of the registered farm, must be kept for all water treatment chemicals purchased.
6. The Auditor will make drinking water measurements for pH and free chlorine at a minimum of 10 drinking water troughs (including the closest and furthest troughs) preferably using appropriate calibrated electronic meters. If the farm has less than 10 drinking water troughs then all troughs must be measured.
7. The Auditor will take a quarterly sample for suspended solids and microbiological analysis at the drinking water trough with the lowest measured free chlorine. This sample will be taken in a prescribed sterile manner and will be refrigerated until it is delivered to the testing laboratory. The sample must be delivered to the laboratory within 24 hours. Samples will be analysed in the laboratory for suspended solids, Enterobacteria (Faecal coliforms), E. coli and Standard Plate Count.
8. Desired levels for these 3 microbiological parameters in the water supplies are as follows:
 - 3.1 Enterobacteria 0/ml
 - 3.2 E. Coli 0/ml
 - 3.3 Total Plate Count <1000/ml
9. If the quarterly microbiological samples do not meet the above quality requirements, then an expert must be consulted in order to take more detailed samples and to determine the source of drinking water contamination.
10. Records of all water flow and quality measurements and records of cleaning of drinking water troughs must be entered into **Form BSM11/002: Monthly Drinking Water Report** and kept at the farm for a period of 2 years for inspection.

MONITORING METHODS

11. The pH of the water can be measured using swimming pool water test kits, test strips or electronic pH meters.
12. Free chlorine can also be measured using swimming pool water test kits, test strips or electronic chlorine meters.

NOTE: This BSM must be used in conjunction with Form BSM11/002: Monthly Drinking Water Report

Table 1: Estimated drinking water and chlorine requirements for different ostrich age groups

Ostrich Age Group (months)	Ostrich Average Weight (kg)	Average Monthly Water Use (l/month/ostrich)
0 - 1	2	12
1 - 2	7	24
2 - 3	20	36
3 - 4	30	50
4 - 5	45	66
5 - 6	55	75
6 - 7	65	90
7 - 8	75	120
8 - 9	85	150
9 - 10	90	180
10 - 11	95	180
11 - 12	100	200
> 12	>100	200