



AGRICULTURE AND AGRIBUSINESS

Land Drainage and Salinity Control

3 day course

Classroom, online or in-house

Course overview

Irrigated land in dry climates accumulates salt because every irrigation brings salt in and only drainage takes it out, so a scheme without drainage is on a schedule to fail that can run for decades before it becomes obvious. This course covers preventing that. Delegates work through the salt balance and why leaching alone does not solve the problem if the water table rises. Water table behaviour and capillary rise are addressed, including the depth at which salt concentrates in the root zone. Drainage investigation follows, covering piezometers, water table mapping and the hydraulic conductivity testing a design depends on. Subsurface drainage design is covered through drain spacing, depth, pipe sizing, envelope material and the steady state and transient approaches. Surface drainage and field layout follow. Drainage water disposal is treated as the difficulty it is, since drainage water is saline and its discharge is regulated. Reclamation of salt affected soils is covered, including gypsum use for sodic soils. The course closes on monitoring and on maintaining a drainage system nobody can see.

What you will learn

- Calculate a salt balance and explain why leaching alone is insufficient
- Relate water table depth and capillary rise to root zone salinity
- Investigate through piezometers, mapping and conductivity testing
- Design subsurface drainage spacing, depth and envelopes
- Lay out surface drainage for the field and the scheme
- Plan drainage water disposal within regulation
- Reclaim saline and sodic soils, and maintain a buried system

Who should attend

- Agricultural and irrigation engineers
- Scheme managers on irrigated estates
- Soil scientists working on salinity
- Consultants designing drainage systems
- Government staff managing irrigation schemes

Course outline

- 01 Salt in with every irrigation
- 02 The salt balance and leaching limits
- 03 Water table behaviour and capillary rise
- 04 Piezometers, mapping and conductivity testing
- 05 Drain spacing, depth and pipe sizing
- 06 Envelope materials and design approaches
- 07 Surface drainage and disposal of saline water
- 08 Reclaiming saline and sodic soils, and maintenance

Upcoming dates

Dates	Venue	Format	Fee per delegate
26 to 28 October 2026	Online	Online	R6,500
30 November to 2 December 2026	Durban, South Africa	Classroom	R14,950
29 to 31 March 2027	Johannesburg, South Africa	Classroom	R14,950



Fees and how to register

This 3 day course is **R6,500** per delegate online, **R14,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 995** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriScience.co.za, or WhatsApp us on **+27 63 479 1136**.

AfriScience Group | +27 61 536 6531 | info@afriScience.co.za | Pretoria, Gauteng, South Africa