

Information Sheet

Soil and irrigation: soil colour

Colour can be a useful indicator of some of the general properties of a soil, as well as some of the chemical processes that are occurring beneath the surface.

Soil colour is usually determined by:

- the amount and state of organic matter
- the amount and state of iron oxide
- soil aeration

Two 'rules of thumb' are:

- the darker the soil is, the more organic matter it contains, and
- a dry soil that leaves your hands 'dirty and dusty' has a high organic matter content

Black and brown soils

These soils are often associated with high levels of organic matter. Some clay minerals can also give a dark colouring.

Red and brown soils

These soil colours indicate good drainage. Iron found within the soil is oxidised more readily due to the higher oxygen content. This causes the soil to develop a 'rusty' colour. The colour can be darker due to organic matter in the soil.



Yellow and yellow/brown soils

These soils often have poorer drainage than red soils. The iron compounds in these soils are in a hydrated form and therefore do not produce the 'rusty' colour.

Grey and blue grey soils

These colours are associated with soils that have very poor drainage or suffer from waterlogged conditions. Iron and manganese compounds are in their reduced form due to the lack of air.

Light grey soils

These soils are often referred to as bleached or 'washed out'. The iron and manganese particles have been leached out due to high amounts of rainfall or vertical and lateral drainage.







Yellow soil.

Grey clay.

Black soil.

Please turn overleaf to view **Table 1**, that uses the soil colour as a guide to soil properties.

References

Schroeder B, Kingston G (2000) Soil properties in relation to cane growing. In 'Manual of cane growing'. (Eds M Hogarth, P Allsopp) pp. 111-125. (BSES Limited: Brisbane).

Schroeder B, Wood A, Panitz J (2007) Accelerating the adoption of best-practice nutrient management: Burdekin district. BSES Limited, Brisbane.



Table 1: Soil colour as a guide to soil properties (Schroeder et al., 2007).

Soil property	Soil colour					
	Black	Red	Brown	Yellow	Grey-blue grey	Light grey
Internal drainage	Low	High	Moderate-high	Moderate-low	Low	High
Waterlogging potential	Moderate	Low	Low	Low-moderate	High	Low
Organic matter accumulation	High	Moderate	Moderate-high	Moderate-low	Low	Low
Leaching of nutrients	Low	Moderate	Moderate	Moderate	Low	High
Nitrogen loss by denitrification	Moderate	Low	Low	Low-moderate	High	Low







© 2014 All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of Sugar Research Australia Limited and our directors, officers, agents and employees. Although we do our best to present information that is correct and accurate, we make no warranties, guarantees or representations about the suitability, reliability, currency or accuracy of the information appearing in this information bete, for any purposes. Subject to any terms implied by law and which cannot be excluded, we accept no responsibility for any loss, damage, cost or expense incurred by you as result of the use of, or reliance on, any materials and information appearing in this information sheet. We responsibility and risk associated with the use and results of the information appearing in this information speering out of, or in connection with the use of this information any loss or damage whatsoever (including through negligence) arising out of, or in connection with the use of this information any information provided in this information sheet. We reacte this information Sheet. We reacte the use information sheet and results of the information appearing in this information provided in this information appearing in the liable for any loss or damage whatsoever (including through negligence) arising out of, or in connection with the use for on you contact our staff before acting on any information provided in this information Sheet. We area this information sheet we reacte this information sheet. We reacte this information sheet we reacted the information appearing in the information on the test or other the second the date of the information appearing in the use of or expressions and recommend that you contact our staff before acting on any information provided in this information sheet. We reacte the use of or the relied on without turther, independent inquiries. They may n