

Overview of relevant irrigation resources available on the Internet

Dear organic cotton community

As announced by Andrea I have compiled a list of references that I regard as useful for the entire topic water, water conservation and irrigation in organic cotton production. Of course this selection is just a flashlight and all of you should feel free to add to “our collection” on our platform.

Generally I looked for documents that are short, advice oriented and in one “handy” document like a *pdf*, rather than long narrative volumes or dispersed Website-based info. Here are criteria I have applied for this selection:

- The document / info should be of high practical rather than scientific value.
- The document /info should be available in the net for free OR I will deliver it to the library.
- Furthermore I have tried to focus on small-scale and / or low budget approaches, although some sources are useful for all kind of systems and situations.

The sources are structured according to these chapters:

- 1) Planning of irrigation systems – check-lists for “design” criteria
- 2) Water saving advices and innovations for various irrigation technologies
- 3) Various systems for small-holders – affordable micro-irrigation
- 4) Drip irrigation - practical tips
- 5) Specific tips for water measurements in surface irrigation
- 6) Companies
- 7) Websites in the FAO context

1) Planning of irrigation systems – check-lists for “design” criteria

Both of the following check-lists are NOT specific for organic and sometimes do refer to practices that are NOT allowed in organic. The lists are nevertheless a good starting point, if you are in the lucky situation that you can plan systematically and that you are not already operating with a system that leaves little freedom for technical changes:

<http://cati.csufresno.edu/CIT/rese/00/000901.pdf>

<http://edis.ifas.ufl.edu/pdf/FILES/AE/AE09300.pdf>

2) Water saving advices and innovations for various irrigation technologies

The only htm-based source that I like to refer to, but its clear structure makes it very useful as quick-reference to compare various technologies. A lot of sketches and drawings make it very practical:

<http://www.fao.org/docrep/S8684E/s8684e00.HTM>

Most of the sources covering water conservation and irrigation quickly jump into drip irrigation. Doubtless converting towards drip irrigation is one of the best ways to make “quantum leaps” of water savings.

BUT – you simply may not have the resources or the access to implement drip irrigation systems. Since this is the case in many Central Asian production areas, Helvetas worked out a practical manual, how you can innovate your irrigation system.

This publication covers to a large extent furrow irrigation, although there is a chapter about drip irrigation as well. The document is placed in the library under its title name:

Irrigation and soil conservation innovations.

3) Various systems for small-holders – affordable micro-irrigation

The development co-operation community has developed its own term for the small-scale and low-budget approach within irrigation – it is AMIT, which stands for:

*A*ffordable *m*icro-*i*rrigation *t*echnologies

With this term you may find a lot of publications and studies.

A useful practical summarizing overview can be found here:

<http://www.siminet.org/images/pdfs/technical-manual.pdf>

This is just the abstracting publication of a more detailed work that has been published as CD ROM.

A 2 page condensed description of such a low-cost system can be found here:

<http://www.rcsdin.org/DRIP%20tech%20manual.pdf>

4) Drip irrigation - practical tips

A nice didactical overview about drip irrigation including many tutorial videos is:

<http://www.dripirrigation.ca>

Since elaborated for gardening the fact-sheet may be of high practical value for small-holders:

<http://www.ext.colostate.edu/pubs/garden/04702.pdf>

Most of the publications simply praise drip irrigation.

The following publication does not shy away to address potential practical problems and how to solve them:

<http://edis.ifas.ufl.edu/pdffiles/WI/WI00700.pdf>

5) Specific tips for water measurements in surface irrigation

In our CoP we came across the difficulty that many projects do not have technical means to measure their water consumption. Here are some practical advices, how to manage that nevertheless:

<http://cals.arizona.edu/pubs/water/az1329.pdf>

6) Companies

Many companies are involved into the manufacturing and distribution of devices, pumps and pipes. Their info material is useful, if one takes into account that it may be biased due to business interest. Nevertheless I list a few, that with their links to manuals and brochures available on their sites:

Netafim from Israel operates globally and has a strong engagement with sustainability issues and even covers organic farming specifically:

<http://www.netafim.com/article/organic-agriculture>

Their knowledge centre is a database to identify crop specific information.
Several cotton related manuals and experience reports are there:
<http://www.netafim.com/Knowledge%20Center>

Jain Irrigation Systems from India
<http://www.jains.com/>
<http://www.jains.com/PDF/Irrigation/margadarshika%20eng.pdf>

Rain Bird from California:
<http://www.rainbird.com/drip/literature/index.htm>

7) Websites in the FAO context

Given the complexity of the water issue, FAO and other international organizations have tried to set-up platforms, where publications can be found. A lot of the material is slightly more on the research and study side, but it is a wealth of water related information anyway.
These sites are:

<http://www.wca-infonet.org/iptrid/infonet/index.jsp>

with a specific link to downloadable publications in the area of water and agriculture:
<http://www.wca-infonet.org/servlet/CDSServlet?status=ND0xMDAxJjY9ZW4mMzM9KiYzNz1rb3M~>

Water conservation tips with a slight focus on the Northern African region is:
<http://www.ciseau.org/index.jsp>
the advantage is that there are a lot of documents in French on this platform:
http://www.ciseau.org/index_fr.jsp

Documents in other languages are within the FAO's IPTRID site:
(there is some redundancy with sources from the sites mentioned above though)
<http://www.fao.org/landandwater/iptrid/EN/publications.html>

An essential website that covers many issues around irrigation and that is NOT related to a company is:
<http://www.irrigationtutorials.com/>
(although there are some disadvantageous advertising banners)

I hope that this overview is helpful
with best regards

Jens