Bibliography on
Cotton Irrigation
BIBLIOGRAPHY ON COTTON IRRIGATION

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INTERNATIONAL INSTITUTE FOR LAND RECLAMATION AND IMPROVEMENT WAGENINGEN / THE NETHERLANDS / 1970
International Institute for Land Reclamation and Improvement
Institut International pour l'Amélioration et la Mise en Valeur des Terres
Internationales Institut für Landgewinnung und Kulturtechnik
Instituto Internacional de Recuperación y Mejora técnica de Tierras

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PREFACE

The works cited in this bibliography are concerned with irrigation and water requirements of cotton. Principal emphasis is placed on cotton irrigation. In general only literature published in English, French and German, and issued in the period 1955 - 1969 has been mentioned.

Publications in other languages and works issued prior to 1955 can be found in the bibliographies and abstract journals enumerated on page 32 and 33.

Journals are abbreviated according to the following principle:
IRRIGATION AND WATER REQUIREMENT OF COTTON

ABDEL WARITH, M. / Consumptive use and irrigation water requirements for cotton plant in Egypt.

ALLISON, F. E. et al. / Relationship between evapotranspiration and yields of crops grown in lysimeters receiving natural rainfall.
Crops of cotton, maize, Pennisetum glaucum, cowpeas, soya-beans and Crotalaria sp.

AMEMIYA, M., L. N. NAMKEN and C. J. GERARD. / Soil water depletion by irrigated cotton as influenced by water regime and stage of plant development.

AMIR, J. and H. BIELORAI. / The influence of various soil moisture-regimes on the yield and quality of cotton in an arid zone.


ARNOLD, B. L. / North Mississippi irrigation tests with cotton,corn.
Sprinkler irrigation.

ASANA, R. D. / Investigations on water relations of some Indian crop plants; a review.
A review of the literature on water relations and drought resistance
of some Indian crops, including cotton.


**BIGGAR, J.W., M.E. BLOODWORTH and C.A. BURLESON.** / Effect of irrigation differentials and planting
dates on the growth, yield and fiber characteristics of cotton in the lower Rio Grande Valley.

BILBRO, J. S. / Fruiting patterns, fiber properties and yields of three cotton varieties grown under three soil-moisture regimes on the High Plains of Texas.

BILBRO, J. D., W. CLYMA, J. S. NEWMAN, M. E. JENSEN and W. H. SLETTEN. / A preliminary evaluation of the leaf-color-change method as an indicator of the optimum time to irrigate cotton on the hardlands of the High Plains.

BLOODWORTH, M. E. / Effect of soil temperature on water use by plants.
Laboratory experiments with cotton.


BLOODWORTH, M. E., W. R. COWLEY and J. S. MORRIS. / Growth and yield of cotton on Willacy loam as affected by different irrigation levels.


BOX, J. A. and E. R. LEMON. / Preliminary field investigations
of electrical resistance - moisture stress relations in cotton and grain sorghum plants.


BROWN, D. A. and B. B. BRYAN. / Irrigation and nitrogen fertilization of cotton in Arkansas.

BROWN, K. J. / Rainfall, tie ridging and crop yields in Sukumaland, Tanganyika.

The influence of rainfall and tie ridging on cotton.

BRUCE, R. R. / Cotton row spacing as it affects soil water utilization and yield.

Agron. J. 57 (1965) 2 : 135-140. 5 refs.

BRUCE, R. R. and C. A. SHIPP. / Cotton fruiting as affected by soil moisture regime.

BRUYN, L. P. de. / Irrigation requirements of cotton.

BRUYN, L. P. de. / The influence of soil moisture deficits on the growth and production of cotton.
12 p. 25 refs.
BRYAN, B. B. and D. A. BROWN. / Evapotranspiration rates of cotton in eastern Arkansas as affected by soil moisture, fertilizer and soil type.

BURHAN, H. S. / The relationship of rainfall to cotton yields in the Sudan Gezira.

BURHAN, H. O. / Factors involved in the fluctuation of cotton yields in the Gezira.
   Discussed are the effects of several factors, rainfall and relative humidity included.

BURNETT, E. and C. E. FISHER. / Correlation of soil moisture and cotton yields.
   A 22-year experiment.

BUGOTT, R. B. / Cotton needs irrigation on Southern Downs.

CARDOZIER, V. R. / Growing cotton.

CARNES, H. R. and J. R. MAUNEY. / Physiology of the cotton plant.
In: Advances in production and utilization of quality cotton; principles and practices. Edit by F. C. Elliot et al.
   Water requirements and water relations are treated also.

CHANG-NAVARRO L., L.; R. MONTALVO S.; and J. VELAZCO L. / (The effects of various levels of soil moisture on
COTTON. In Spanish with Engl. summ.

CHRISTIDIS, B. G. and G. J. HARRISON. / Cotton growing problems.

CLOWER, K. N. and W. H. PATRICK. / Soil moisture extraction and physiological wilting of cotton on Mississippi River alluvial soils.

CORCELLE, P. / (Influence of rainfall on the maturity of cotton fibres expressed by the micronaire index).

Calif. Agric. 16 (1962) 11: 10-12.

DAESCHNER, M. / (Agronomic problems in cotton growing in Iran).
Irrigation and fertilization.

DARGAN, K. S., R. N. SHARMA and V. N. SAHNI. / Studies on the withholding of first irrigation and topping with and without nitrogen on the yield, development and economic characters of 320 F American cotton.

DASTUR, R. H. and J. M. MATHUR. / Investigations into the possibilities of growing American cottons in the Mewar tract of Rajasthan.
The effects of irrigation, sowing date and spacing.
DAVENPORT, D. C. and J. P. HUDSON. / Local advection over crops and fallows. I. Changes in evaporation rates along a 17 km transect in the Sudan Gezira.

DEMOL, J. / (Contribution to the study of the influence of the water regime on different yield factors in Gossypium hirsutum L.)
Bull. Inf. INEAC. 13 (1964) nos. 1-6 : 41-75. 32 refs. In French.
Pot trials in Belgium.

DOSS, B. D., D. A. ASHLEY and O. L. BENNETT. / Effect of moisture regime and stage of plant growth on moisture use by cotton.
Soil Sci. 98 (1964) 3 : 156-161.

EATON, F. M. / Physiology of the cotton plant.

EHRLER, W. L., C. H. M. van BAVEL and F. S. NAKAYAMA. / Transpiration, waterabsorption and internal water balance of cotton plants as affected by light and changes in saturation deficit.

EL ABEDINE, A. Z., G. BASSILY and S. EL AASAR. / The effect of conventional and controlled irrigation on cotton plant growth and yield with reference to soil moisture changes and related physical properties in Cairo University Farm, Giza, U. A. R.

ERIE, L. J. / Water needs for efficiency.
Cotton irrigation.

ERIE, L. J. / Closing the irrigation gap.


Water and N fertilizer have a preponderating influence on excessive vegetative growth.

Irrigation of cotton.

Growth analysis of developing cotton plants.

The water relations of a cotton crop in Aden Protectorate.


FARBROTHER, H. G. / Water requirements of cotton; seasonal ET measurements as correlated with yield and quality. Report 26th Plenary Meeting International Cotton Advisory Committee,
Amsterdam, 1967, p. 155-159.


The influence of soil and rainfall.


Consumptive-use and irrigation water requirements of cotton, lucerne, pastures, sorghum, maize and truck crops.
GATTIS, J. L. / Irrigation and drainage in Arkansas.
Irrigation and drainage of cotton crops.


GOOSEN, R. J. and G. SCHMIDT. / Minimum irrigation still yields full crop.
Irrigation of cotton and alfalfa.


GRIMES, D. W., V. T. WALHOOD and W. L. DICKENS. / Alternate-furrow irrigation for San Joaquin Valley cotton.
Calif. Agric. 22 (1968) 5: 4-6.

GUNTER, B. C. / The effect of timing of a single summer irrigation on yield and fiber properties of four stormproof cotton varieties of different maturity.


HAMILTON, J., C. O. STANBERRY and W. M. WOOTTON / Cotton growth and production as affected by moisture, nitrogen and plant spacing on the Yuma Mesa.

HANSON, E. G. and W. G. KNISEL. / Influence of irrigation practices on cotton production and fibre properties.

HARPER, H. J. / The effect of rainfall and temperature on crop production in Central and Western Oklahoma.

The influence of rainfall and temperature on the yields of cotton, barley, groundnuts, maize, sorghum and wheat.

HARRIS, K., L. J. ERIE and B. PETERSON. / Cotton irrigation in the Southwest.

HASKELL, E. E. and W. C. BIANCHI. / Effects of prolonged
irrigation on cotton.

J. Agric. Sci. (Camb.) 73 (1969) 1 : 65-74; 75-86; 87-97. 73 refs.
The effects of water, variety, sowing date and spacing were studied.


How much water does a cotton plant require?
Cott. Gin and Oil Mill Press LXIX (1968) 11 : 12 (June).

HUDSON, J. P. / Variations in evaporation rates in Gezira cotton fields.

HUDSON, J. P. / Evaporation under hot dry conditions; changes across ten miles of cotton and fallow in the Sudan.

HUTCHINSON, J., H. L. MANNING and H. G. FARBROTHER. / Crop water requirements of cotton.
J. Agric. Sci. 51 (1958) 2 : 177-188. 15 refs.

INFORZATO, R. and M. G. FUZATTO. / (Studies on transpiration with three cotton varieties of the State of Sao Paulo).

INNESS, N. L. / Performance under irrigation of medium staple cotton varieties introduced into the Sudan.
JACKSON, E. B. and P. A. TILT. / Effects of irrigation intensity and nitrogen level on the performance of eight varieties of Upland cotton, Gossypium hirsutum L.

KAISER, R. / (Contribution to the study of water requirements of cotton at the Office du Niger, Mali).

KIMBROUGH, E. A. and J. F. O'KELLY. / Cotton variety and irrigation tests in the hill sections of Mississippi.

KIMBROUGH, E. A. and E. F. RATLIFF. / The study of irrigating cotton in the hill sections of Mississippi.


Crop water requirements of cotton and alfalfa.


LEA, J. D., G. MURDOCH and M. CORNISH-BOWDEN. / Irrigating cotton in Swaziland.

Evapotranspiration in a cotton field.

LEVIN, I. and E. SHMUELII. / The response of cotton to various irrigation regimes in the Hula valley.

LOMBARD, P. and L. BOULET. / (Five years of cotton irrigation experiments in Morocco).
Trav. 12 (1957) : 51-68;

LOMBARD, P. and L. BOULET. / (Cotton and tropical fibres; five years of cotton irrigation experiments in Morocco).


Review.

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LONGENECKER, D. E. and P. J. LYERLY. / Moisture content of cotton leaves and petioles as related to environmental moisture stress.
Cotton petioles may be more reliable indicators of the constantly changing plant-soil moisture relationship than leaves.

LONGENECKER, D. E. and E. L. THAXTON. / Comparative performance of selected Upland cotton varieties under full irrigation in far west Texas.


LONGENECKER, D. E., E. L. THAXTON and P. J. LYERLY. / Cotton production in far west Texas with emphasis on irrigation and fertilization.

LONGENECKER, D. E., E. L. THAXTON and P. J. LYERLY. / Nutrient content and nutrient ratios of irrigated cotton on fertile soils as affected by irrigation frequency, water quality 22
and other factors.


MAHLMANN, M. / Irrigation on a medium size cotton farm.
In Texas.

MALLIK, A. K. / An examination of the crop yields at crop-weather stations with special reference to rainfall.

The yields of cotton crops, rice, wheat, and sorghum.

MANNING, H. L. / The relationship between soil moisture and yield variation in cotton.


MARIN VILLEGAS, J. / (Observations on the water consumption
of cotton plants in the region of Rozo, Palmira).
In Spanish.

M A R T I N A R A N D A , J. / (Effect of the irrigation regime on yield and in advancing the harvest date of cotton).


M E G I E , C. / (Rainfall, date of sowing and yield of cotton in the Tikem region, Tchad).


Review article. Some references on water supply and water requirements are included.


N A M K E N , L. N. / Relative turgidity technique for scheduling cotton (Gossypium hirsutum) irrigation.


PALLAS, J. E., B. E. MICHEL and D. G. HARRIS. /
Photosynthesis, transpiration, leaf temperature, and stomatal activity of cotton plants under varying water potentials.

PALMER, J. H. / Diurnal variation in leaf and boll temperatures of irrigated cotton grown under two soil moisture regimes in a semi-arid climate.

PANABOKKE, C. R. / Water consumption pattern of crops in the dry zone environment (of Ceylon).
Evapotranspiration and water consumption of some crops which include cotton.

PARIAS, L. de e. / (Experiments on long line furrow method for cotton irrigation).
Experiments in Spain.

PARRY, G. / (Irrigated cotton in west Algeria).
In French with Engl. summ.


PREOBRAZHENSKAYA, M. V. / Use of soil moisture and ground water by cotton plants under sprinkling irrigation in arid zones.


RIJKS, D. A. and J. F. HARROP. / Irrigation and fertilizer experiments on cotton at Mubuku, Uganda. 

ROSE, C. W. and W. R. STERN. / Determination of withdrawal of water from soil by crop roots as a function of depth and time. 
The withdrawal of water by an irrigated cotton crop.

RUSSELL, E. W. / Water requirements of the cotton crop. 
Summaries of papers presented at the summer meeting of Empire Cotton Growing Corporation Scientists at Selsdon, Surrey, July 1963.

SALTER, P. J. and J. E. GOODE. / Crop responses to water at different stages of growth. 
Water requirement of Upland cotton is included.


SHAHIN, M. and M. I. EL-SHAL. / An investigation of the consumptive use of water for crops and the frequency of irrigation in the United Arab Republic. 
Experiments with cotton, wheat, corn, berseem and citrus.

SLATYER, R.O. and I. I. BASINSKI. / Irrigation principles and practices in cotton production, Queensland, Australia.

SLATYER, R.O. and J.F. BIERHUIZEN. / The effect of several foliar sprays on transpiration and water use efficiency of cotton plants.

SLATYER, R.O. and J.F. BIERHUIZEN. / The influence of several transpiration suppressants on transpiration, photosynthesis, and water use efficiency of cotton leaves.

Soil-water-plant relationship in cotton growing.
Reports to the 26th Plenary Meeting, International Cotton Advisory Committee at Amsterdam, 1967. 293 p.

SPOONER, A.E., D.A. BROWN and B.A. WADDLE. / Effects of irrigation on cotton fiber properties.


STANHILL, G. / The control of field irrigation practice from measurements of evaporation.
Experiments with cotton, groundnuts, maize, sorghum, vine and agave.

STERN, W. R. / Soil water balance and evapotranspiration of irrigated cotton.

STERN, W. R. / Seasonal evapotranspiration of irrigated cotton in a low latitude environment.

STOCKTON, J. R. / Root development and irrigation practices.

In: Irrigation of agricultural lands. Edit by R. M. Hagan et al.

STOCKTON, J. R. and L. D. DONEEN. / Factors in cotton irrigation; quality of cotton fiber not materially affected by different irrigation treatments on three types of soil.
Calif. Agric. 11 (1957) 4: 16-17, 25.


STOCKTON, J. R. and V. T. WALHOOD. / Effect of irrigation and temperature on fiber properties.

STRONG, W. C. / Cotton irrigation in the U.S.A.


VIEIRA - DA - SILVA, J. B. / (Contribution to the study of drought resistance in the genus Gossypium. I. Transpiration of detached leaves
and conception of a transpiration control index).

Villele, O. de / (Five years of investigations on water requirements of crops).
Water requirements of cotton, lucerne, maize, and sorghum.

Wahhab, A. and R. Ahmad / Manuring of cotton in West Pakistan. 2. Effect of date sowing, irrigation, spacing between rows, and rate of manuring on the yield of seed cotton.

Walhood, V. T. and B. Counts / Effects of irrigation on the growth and yield of cotton.
Calif. Agric. 9 (1965) 7: 8-11.

Walton, P. D. / Estimates of water use by cotton crops at Serere, Uganda.

Water balance and transpiration of cotton leaves.

Weatherly, P. E. / Studies in the water relations of the cotton plant. 2. Diurnal and seasonal variations in relative turgidity and environmental factors.
New Phytol. 50 (1951) 36-51.


Wimberly, J. / Cotton irrigation practices.
WOLF, A. F. / (Can one compare irrigated with raingrown cotton?)
In German with Engl. summ.
   Quality of cotton.
INTERRELATION OF IRRIGATION AND FERTILIZATION OF COTTON


HAMAWI, H., M. H. LASHIN, M. S. ABED, M. BIOMI and E. AYOUB. / Physiological studies on Egyptian cotton varieties. 3. Effect of irrigation frequency, depth of ploughing, amount of nitro-
genous fertilizer, and its interactions on the leaf-redding in cotton.

HAMDI, H., Y. Y. SHALABY and M. A. OMAR. / The
interaction between irrigation and nitrogenous fertilizers on some plant
characters and yield of cotton.

HAMILTON, J., C. O. STANBERRY and
W. M. WOOTTON. / Cotton growth and production as affected by
moisture, nitrogen and plant spacing on the Yuma Mesa.
There was a positive interaction between N and moisture.

HOHN, C. M., F. L. FISHER and A. G. CALDWELL. /
Effects of moisture-fertility levels on cotton yields at College Station,
1957.

HOHN, C. M., F. L. FISHER and A. G. CALDWELL. /
Moisture-fertility relations of cotton at College Station, 1957-1959.

HOOVER, M. / Balancing irrigation and fertilization.

JACKSON, E. B. and P. A. TILT. / Effects of irrigation in-
tensity and nitrogen level on the performance of eight varieties of Upland
cotton, Gossypium hirsutum L.
Interrelation of nitrogen fertilization and irrigation treatment is
included.

LONGENECKER, D. E. and P. J. LYERLY. / Effect of fer-
tility level, soil texture and irrigation interval on cotton yields in the

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LONGENECKER, D. E. and E. L. THAXTON. / Comparative performance of selected Upland cotton varieties under full irrigation in far west Texas.

LONGENECKER, D. E., E. L. THAXTON and P. J. LYERLY. / Cotton production in far west Texas with emphasis on irrigation and fertilization.

NEWMAN, S. and H. J. WALKER. / Irrigation and fertilizer benefits are interlocked.

PEARSON, R. W. / Moisture and nitrogen relations of cotton.

PHILLIPS, S. A. / Effect of irrigation on response of cotton and corn to fertilization.


REYES MANZANARES, D. and E. ORTEGA TORRES. / (The effect of soil moisture and nitrogen fertilizing on the yield and some characteristics of cotton in the coastal region of Hermosillo).

SCARBROOK, C. E., O. L. BENNETT and R. W. PEARSON. / The interaction of nitrogen and moisture on
cotton yields and other characteristics.

ECONOMIC ASPECTS OF COTTON IRRIGATION


HUGHES, W. F. and A. C. MAGEE. / Some economic effects of adjusting to a changing water supply, Texas High Plains. Bull. no. 966 Texas Agric. Exp. Stat. 1960. Skip-row systems were used to adjust to a reduced irrigation potential in cotton producing areas.


JOPPE, C. / (Study of costs and return of an irrigated cotton culture at Richard-Toll, Senegal).


BIBLIOGRAPHIES AND REVIEWS ON IRRIGATION AND WATER REQUIREMENT OF COTTON

Bibliography on cotton: irrigation and consumptive use of water (1957-1929).
7 p. 39 refs.

Bibliography on water requirements of cotton (1962-1945).
6 p. 31 refs.

Review.

Review.

Water requirements of crops: Cotton, including hemp and jute. 1960-1969.
Annot. Bibl. no. 1182 (5).
Compiled from references taken from Field Crop Abstracts by the Commonwealth Bureau of Pastures and Field Crops.
ABSTRACTING JOURNALS AND ABSTRACTS SECTIONS IN JOURNALS CONTAINING LITERATURE ON IRRIGATION AND WATER REQUIREMENT OF COTTON

Bibliography of Agriculture.
Superintendent of Documents, U.S. Government Printing Office,
Washington D.C. 20402.

Cotton Growing Review. Abstracts Section.
Cotton Research Corporation, 12 Chantrey House, Eccleston Street,
London, S.W.1.

Coton et Fibres Tropicales. Section: Bibliographie signalétique.
Institut de Recherches du Coton et des Textiles Exotiques (I.R.C.T.),
34, Rue des Renaudes, Paris 17e.

Field Crop Abstracts.
Commonwealth Agricultural Bureaux, Farnham House, Farnham Royal,
Bucks, England.

Soils and Fertilizers.
Commonwealth Agricultural Bureaux, Farnham House, Farnham Royal,
Bucks, England.

Tropical Abstracts.
Royal Tropical Institute, 63 Mauritskade, Amsterdam.