

Hakim Boulal Joins Staff of IPNI as Deputy Director of North Africa Program

Dr. Hakim Boulal joined IPNI as Deputy Director of its newly established regional program in North Africa, effective February 1, 2013. Dr. Boulal joins Dr. Mohammed El Gharous, Consulting Director for IPNI North Africa, both of whom will be located in Settat, Morocco.

“The addition of Dr. Boulal to our North Africa Program completes a knowledgeable team that is well prepared to meet the research challenges facing this very important region,” said IPNI President Dr. Terry Roberts. “The background and skills that Dr. Boulal brings to IPNI are vital to our plans for the North African region and will be highly valued by our members.”

Dr. Boulal is a native of Youssoufia city, one of the important phosphate production sites in Morocco. He received his B.Sc. in Agricultural Sciences in 1988 from the National School of Agriculture in Meknes, Morocco. Dr. Boulal completed a Ph.D. program on Biology and Agronomy in 1996, from the National School of Agronomy of Rennes (France). In 2010, Dr. Boulal completed his second Ph.D. program from the University of Cordoba (Spain) on conservation agriculture including soil and water conservation, crops and irrigation aspects.

Dr. Boulal has an extensive work background within the North African region that began within Morocco’s Na-

tional Institute of Agronomic Research (INRA) where he became involved in research/development and agronomy research programs. As a research scientist with INRA, Dr. Boulal worked in various national and international projects. He made significant contributions in improving cereal crop management, to developing suitable methods of conservation agriculture, implementing decision support systems for cereal production, agro-meteorology, and leading a program on the evaluation of raised-bed planting systems for irrigated wheat in Morocco.

More recently, Dr. Boulal has worked within the International Centre of Agricultural Research in Dry Areas (ICARDA) where he coordinated research projects on improved water management for sustainable mountain agriculture; options for coping with increased water scarcity in agriculture; and development and dissemination of sustainable irrigation management in olive. 



Dr. Hakim Boulal

Conversion Factors for U.S. System and Metric

Because of the diverse readership of *Better Crops with Plant Food*, units of measure are given in U.S. system standards in some articles and in metric units in others...depending on the method commonly used in the region where the information originates. For example, an article reporting on corn yields in Illinois would use units of pounds per acre (lb/A) for fertilizer rates and bushels (bu) for yields; an article on rice production in Southeast Asia would use kilograms (kg), hectares (ha), and other metric units.

Several factors are available to quickly convert units from either system to units more familiar to individual readers. Following are some examples which will be useful in relation to various articles in this issue of *Better Crops with Plant Food*.

To convert Col. 1 into Col. 2, multiply by:	Column 1	Column 2	To convert Col. 2 into Col. 1, multiply by:
Length			
0.621	kilometer, km	mile, mi	1.609
1.094	meter, m	yard, yd	0.914
0.394	centimeter, cm	inch, in.	2.54
Area			
2.471	hectare, ha	acre, A	0.405
Volume			
1.057	liter, L	quart (liquid), qt	0.946
Mass			
1.102	tonne ¹ (metric, 1,000 kg)	short ton (U.S. 2,000 lb)	0.9072
0.035	gram, g	ounce	28.35
Yield or Rate			
0.446	tonne/ha	ton/A	2.242
0.891	kg/ha	lb/A	1.12
0.0159	kg/ha	bu/A, corn (grain)	62.7
0.0149	kg/ha	bu/A, wheat or soybeans	67.2

¹The spelling as “tonne” indicates metric ton (1,000 kg). Spelling as “ton” indicates the U.S. short ton (2,000 lb). When used as a unit of measure, tonne or ton may be abbreviated, as in 9 t/ha. A metric expression assumes t=tonne; a U.S. expression assumes t=ton.