

Rio Grande Inter-Basin Roundtable
c/o San Luis Valley Water Conservancy District
623 Fourth Street
Alamosa, CO 81101
Telephone: (719) 589 – 2230
Email: slvwcdco1@qwestoffice.net

March 23, 2013

Mr. Michael King, Executive Director
Colorado Department of Natural Resources

Mr. Todd Doherty, Intrastate Water Management & Development
Colorado Water Conservation Board

**Reference: Drip Irrigation Field Trial for Sustainable Potato Cropping
in the San Luis Valley**

Gentlemen:

The Rio Grande Inter-Basin Roundtable (R.G.R.T) has determined that the single, most critical water issue confronting the Rio Grande Basin (Basin) is the current unsustainable management of surface and ground water. The R.G.R.T. has made the decision that water activities that address this issue be favorably considered for funding from the Water Supply Reserve Account, SB 2005 -179 (WSRA Funds), providing the proposed water activities meet the SWSI findings for the Basin and the CWCB & IBCC Criteria and Guidelines for funding.

The **Drip Irrigation Field Trial for Sustainable Potato Cropping in the San Luis Valley** (Project) is an attempt to demonstrate an alternative method of irrigation to those methods that have been historically been used to raise potatoes and grain in the San Luis Valley (SLV).

The sponsor of the Project and applicant for the WSRA funding is the Colorado Potato Administrative Committee (CPAC). CPAC is a grower-based 501(c)(3) nonprofit organization founded in 1941 under Marketing Order 948 as a federal and state marketing organization for potatoes. The state marketing order authorizes CPAC to function as an administrative subdivision of the state and to represent the 170 potato growers in the SLV. CPAC is focused on unifying the industry to ensure long-term sustainability and profitability through research, promotion, and education. The committee, governed by 14 members elected from local growers and shippers, maintains the highest quality of potatoes by setting strict size and grade regulations and requiring government inspections for each load of potatoes leaving the SLV.

CPAC works closely with the Colorado State University (CSU) San Luis Valley Research Station to fund research on potato breeding and potato production issues. CPAC also promotes and advertises the quality and nutrition of Colorado grown potatoes. CPAC closely monitors agricultural issues that may impact growers and shippers and proactively works to educate growers, shippers, and others regarding these issues. CPAC members and staff work together for the sustainable future of the entire potato industry.

Through this Project, CPAC will investigate if drip irrigation can be a possible game changer in

the management of irrigation water for the SLV. The agricultural producers, through the Rio Grande Water Conservation District, and the Groundwater Management Subdistricts, are attempting to address the declining levels in the SLV's aquifers. This is being done through taking land out of agricultural production, through market based methods, including the USDA CREP program, and compensating farmers for reduced pumping of groundwater. In 2012, the amount of land fallowed was approximately 40,000 acres. As growers look to the future, the cost and availability of irrigation water is a major concern. The purpose of this Project is to demonstrate the feasibility of drip irrigation by determining if this technology will lead to cost and water use reductions for SLV growers. Agricultural producers need to know whether drip irrigation can become part of the solution, along with other practices such as retiring land.

CPAC is partnering with two local farmers on the Project. One of the farmers, Dennis Beiriger and his brothers, have wanted to turn 30 acres of their fourth-generation family farm in Hooper, Colorado, into a drip irrigation demonstration project for many years. They want to demonstrate to the SLV's drought-stricken potato growers that drip irrigation is possible, that it can be profitable on a large-scale, and that by burying drip-irrigation tape underground a grower can produce economically profitable yields using potentially 20% to 30% less water.

Through this Project, the partners will install the system, collect and analyze data, and develop a report on the feasibility of drip irrigation for the SLV. Consideration was given to having the CSU Experimental Research Center conduct this project on their test plots, but the farmers involved want to do this Project on their own farms, at a larger scale which they felt would be more appropriate to meeting their demonstration goals. NRCS was also approached to support the Project, but, due to the timing of the study, no NRCS funding is available. The decision was therefore made for CPAC to administer the Project.

Designed, engineered, and installed by Diversity D Inc., this Project will install two sub-surface agricultural drip irrigation systems on a total of 47 acres in the central part of the SLV. These installations will be on the Beiriger and on the Christensen farms near Hooper, within the boundaries of the Rio Grande Water Conservation District's Subdistrict No. 1.

The Project will include moisture monitoring, plant nutrition monitoring, and pest monitoring by Cactus Hill Ag Consulting and Agro Engineering. A Final Project report will evaluate the technology and suggest alternative potential extensions of the lessons learned from this trial. Dr. James Pritchett, CSU Extension Agricultural Economics Professor, will provide analysis and an economic feasibility study as an in-kind contribution from CSU. The project will also tap CSU's expertise from similar work in the Arkansas Valley. The Final Project Report will be submitted to CPAC in December, 2013, providing the analysis of one full growing season. This Final Report will be included in the final reporting on the use of WSRA funding.

The following Budget for Drip Irrigation Demonstration Project, gives a breakdown of the total Project costs and parties contributing to the Project, either in cash or in-kind contributions. As can be seen, in addition to the farmers making contributions, CPAC, Diversity D (equipment), Monte Vista Co-Op, Wilbur Ellis (fertilizer), Farm Fresh (packaging and shipping), the San Luis Valley Irrigation District, and CSU are also contributing to the cost of the Project. The Request for WSRA Basin Funds of \$40,000.00 was unanimously approved by attending members of the Rio Grande Interbasin Roundtable at their meeting on March 12, 2013.

Budget for Drip Irrigation Demonstration Project

SYSTEM INSTALLATION	Third Party Contributions	GRANT	Total Project Cost	PARTICIPATION
Drip tape	\$47,400	\$0	\$47,400	Diversity D, CPAC
Filter supplies	\$0	\$33,670	\$33,670	
Chemigation valve and supplies	\$7,082	\$0	\$7,082	Monte Vista Co-op
IPS pipe and supplies	\$7,281	\$0	\$7,281	Beiriger, CPAC
Contollers	\$6,904	\$0	\$6,904	CPAC
Electrical supplies	\$4,449	\$0	\$4,449	CPAC, MV Co-op
Installation Labor	\$33,592	\$0	\$33,592	Farm Fresh Direct, MV Co-op
Subtotal	\$106,708	\$33,670	\$140,378	
AGRONOMIC MONITORING				
Hobo Data Loggers with mositure sensors	\$1,300	\$ 6,330	\$7,600	CPAC
Complete petiole analysis	\$1,850		\$1,850	Christensen Farms
Petiole Nitrate analysis	\$650	\$ -	\$650	Christensen Farms, CPAC
Monitoring Labor	\$2,000	\$ -	\$2,000	SLV Irrigation Disrict
Summary Reporting	\$1,850	\$ -	\$1,850	Wilbur Ellis, SLV Irr. Dist., CPAC
Subtotal	\$7,650	\$6,330	\$13,950	
ECONOMIC STUDY	\$2,000		\$2,000	CSU Inkind
TOTAL PROJECT	\$116,328	\$40,000	\$156,328	74.4% Total Project paid by Match funds

The requested \$40,000.00 WSRA funds are some 25% of the Total Project costs.

While the attached Application does not state this, the Project proponents, and Members of the Rio Grande Interbasin Roundtable, realize that this demonstration project maybe the first of a broader effort to evaluate drip irrigation in the SLV and on crops other than potatoes.

The R.G.R.T. urges the CWCB Board to approve this request for \$40,000.00 of Rio Grande Basin Funds for this demonstration of drip irrigation as applied to potato production in the SLV of Colorado.

The R.G.R.T. appreciates the support of the Department of Natural Resources, the Colorado Water Conservation Board, and the Interbasin Compact Commission in assisting in meeting the needs of all users of Colorado's water.

Sincerely,



Mike Gibson
Chair, Rio Grande Interbasin Roundtable

Attachment (1)

Jim Ehrlich, CPAC