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Pierre R. Merel* (merel@primal.ucdavis.edu), Agricultural and Resource Economics, UC Davis, 1 Shields Avenue, Davis, CA 95616, and **Santiago Bucaram**, Agricultural and Resource Economics, UC Davis. *Exact Calibration of Programming Models of Agricultural Supply against Exogenous Sets of Supply Elasticities.*

A methodology is developed to exactly calibrate programming models of agricultural supply against exogenous sets of supply elasticities. Although earlier literature has recognized the need to incorporate prior information on elasticities to such models, calibration procedures are not widely available. Previous studies have used “myopic” calibration ignoring the change in the shadow price of constrained resources induced by price changes, leading to erroneous implied elasticities. An exact calibration procedure has been proposed by Heckeley (2002) for models with Leontief-type production functions and quadratic adjustment cost. We show that this procedure does not allow calibration against any arbitrary set of supply elasticities, however. We derive a test that allows the analyst to determine *ex ante* whether the calibration problem has a solution, and prove that this solution, if it exists, is unique. We propose a general calibration procedure for models with input allocation, and apply it to the CES-quadratic model of Howitt (1995). Our procedure yields closed-form solutions for the elasticity equations and thus permits exact calibration without the use of duplicate sets of first-order conditions, as initially proposed by Heckeley (2002). (Received September 21, 2009)