

**Table S1.** Study community descriptions including comparison with national and US data. T = more traditional, M = more modern, agricultural community. Based on (Soleri et al. 2005), updated where data available. NA = not available

Location	Annual ave. precipi- tation (mm)	Eleva- tion (masl)	Mid-2007 population (x 10 <sup>3</sup> ) <sup>1</sup>	2003 per capita gross national income (USD) <sup>2</sup>	Percent of population in agriculture , 2003 <sup>1</sup>	Ave maize yields 2005 (MT/ha) <sup>2</sup>
Cuba	-	-	11,200	NA	15.2	2.3
La Palma, Pinar del Río (T)	1660 <sup>4</sup>	50-80 <sup>4</sup>	35.43 <sup>5</sup>	144 <sup>6</sup>	5.0 <sup>7</sup>	0.8 <sup>8</sup>
Mayorquín, Holguin (M)	1017 <sup>9</sup>	44 <sup>10</sup>	72.8 <sup>11</sup>	168 <sup>11</sup>	49.0 <sup>11</sup>	1.5 <sup>11</sup>
Guatemala	-	-	13,400	1910	48.1	1.7
El Rejón, Sacatepequez (T)	1700	1400- 1650	27.8 <sup>12</sup>	NA	NA	1.6 <sup>12</sup>
La Máquina, Suchitepeque z (M)	1350	48	49.9 <sup>12</sup>	NA	NA	2.4 <sup>12</sup>
México	-	-	106,500	6230	21.7	2.7
Santa Inez Yatzeche, Oaxaca (T)	746.6	1460	1.2 <sup>13</sup>	529 <sup>13</sup>	63.0 <sup>13</sup>	1.0 <sup>14</sup>
Comitancillo, Oaxaca (M)	909.2	70	3.6 <sup>13</sup>	2248 <sup>13</sup>	27.5 <sup>13</sup>	0.4 <sup>15</sup>
USA	-	-	302,200	37,870	2.0	10.05

<sup>1</sup> (Population Reference Bureau 2007) for national data.

<sup>2</sup> (FAOSTAT 2006) for national data.

<sup>3</sup> (FAO 2007) for national data.

<sup>4</sup> Estación meteorológica La Palma. Pinar del Río, Cuba, 2004 (Average precipitation for last 11 years)

<sup>5</sup> Oficina Municipal de Estadística. La Palma, Pinar del Río, Cuba. 2003

<sup>6</sup> Dirección municipal de economía y planificación. La Palma, Pinar del Río, Cuba. 2004 (Annual salary paid to workers by government).

<sup>7</sup> Sector Cooperativo y Campesino. La Palma, Pinar del Río, Cuba. 2004

<sup>8</sup> Empresa de Cultivos Varios, La Palma, Pinar del Río, Cuba. 2004

<sup>9</sup> Estación Territorial de Investigaciones Agropecuarias de Holguín, Grupo de Granos, 2003 (Average precipitation for last 18 years)

<sup>10</sup> Catastro Municipal, Velasco, 2003

<sup>11</sup> Oficina municipal de estadística, Gibara, Holguín. 2003. Gross national income data is average annual salary paid to workers by government.

<sup>12</sup> (Instituto Nacional de Economía 2004)

<sup>13</sup> (INEGI 2005) Approximation calculated from employment and salary data for 2000.

<sup>14</sup> (SAGARPA 2007)

<sup>15</sup> (SAGARPA 2006)

**Table S2.** Characteristics of farms included in study (average and standard deviation unless otherwise indicated). T = more traditional, M = more modern, agricultural community. Data from authors' survey, some previously published in (Soleri et al. 2005). The symbol \* denotes significant difference between communities in same country at  $P < 0.05$  for t-test for continuous variables;  $\chi^2$  test of independence or Fisher's exact test for categorical variables.

Location (n)	Farmer age, years <sup>1</sup> .	Farmer formal education, years <sup>1</sup> .	Family member is migrant, percent (n).	Ha maize, count <sup>1</sup> .	Fields maize, count <sup>1</sup> .	Maize varieties, count <sup>1</sup> .	Sells maize at market, percent. (n) <sup>2</sup>	Acquires MV seed annually from formal system, percent. (n)	Observed diminished effectiveness of pesticides over time, percent. (n) <sup>3</sup> .
Cuba (114)	51.97 (14.49)	8.54 (3.82)	48.25 (55)	1.14 (1.13)*	1.71 (0.93)	1.16 (0.37)*	50.9 (58/114)*	7.9 (9) *	66.0 (70/106)
La Palma, Pinar del Río (T) (56)	53.93 (14.21)ab	8.07 (4.08)a	51.79 (29)	0.57 (0.37)d	1.59 (0.76)bc	1.25 (0.44)b	0 (0/56)	1.8 (1)	40.8 (20/49)
Mayorquín, Holguín (M) (58)	50.05 (14.63)b	8.89 (3.52)a	44.83 (26)	1.70 (1.33)bc	1.83 (1.06)bc	1.07 (0.26)b	100 (58/58)	13.8 (8)	87.7 (50/57)

Guatemala (110)	48.60 (16.87)*	2.48 (2.54)	28.18 (31)*	2.61 (3.94)*	1.65 (0.92)*	1.67 (0.81)*	74.1 (80/108)*	44.6 (49)*	82.9 (87/105)
El Rejón, Sacatepequez (T) (55)	41.74 (15.01)c	2.65 (1.99)c	7.27 (4)	0.43 (0.21)d	2.05 (1.06)b	2.11 (0.88)a	47.2 (25/53)	0.0	66.7 (34/51)
La Máquina, Suchitepequez (M) (55)	55.33 (15.97)ab	2.31 (3.00)c	49.09 (27)	4.79 (4.64)a	1.24 (0.51)c	1.24 (0.43)b	100 (55/55)	89.1 (49)	98.2 (53/54)
México (110)	56.95 (12.15)*	3.84 (3.95)*	50.91 (56)*	2.96 (2.23)	2.45 (1.97)*	1.50 (0.74)*	52.0 (51/98)	0.0	13.2 (5/38)
Sta Inez Yatzeche, Oaxaca (T) (55)	54.62 (12.57)ab	2.84 (3.62)c	90.91 (50)	2.65 (2.58)bc	3.62 (2.15)a	1.96 (0.79)a	44.2 (19/43)	0.0	14.3 (3/21)
Comitancillo, Oaxaca (M) (55)	59.27 (11.36)a	4.84 (4.03)b	10.91 (6)	3.27 (1.78)b	1.27 (0.65)c	1.04 (0.19)b	58.2 (32/55)	0.0	11.8 (2/17)
Total (334)	52.51 (14.97)	4.97 (4.35)	42.51 (142)	2.23 (2.79)	1.93 (1.41)	1.44 (0.70)	63.6 (131/206)	17.4 (58)	65.1 (102/249)

<sup>1</sup> Across all communities, averages with the same letter not significantly different, Tukey's studentized range,  $P < 0.05$

<sup>2</sup> Not included in some interviews, thus smaller total n.

<sup>3</sup> Pesticide use on any crop, in field or in storage. Smaller total n because not all use pesticides.

<sup>4</sup> Whether sell maize or not was not asked in Cuba. We have extrapolated the responses for each community based on La Palma farmers being self provisioning for maize, the absence of any maize markets and no government purchasing of maize in the region, and the previous experience of the Cuban scientists working on this research. Similarly, based on them being members of a credit and service cooperative comprised of individual landowners contracted by the government to produce maize, and scientists' observations, Mayorquín farmers were assumed to be sellers of maize.

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