Supplements

Supplement 1 Correction procedure

While performing laboratory analyses, we found that too many samples showed sodium concentration outside of normal reference limits. To check the results, a new portion of the same test tube was analyzed. The new portions (taken from the lower parts of the sample) showed higher concentrations than the initial results (taken from the top parts of the sample), thus indicating the existence of a concentration gradient. It is well known that such concentrations gradients may occur if samples are not thoroughly mixed (Omang SH, Vellar OD. Analytical error due to concentration gradients in frozen and thawed samples. Clin Chim Acta. 1973;49:125-6). We used a vortex shaker to mix the samples after thawing. However, this procedure had not resulted in a thorough mixing in all our samples.

We sought the equivalent of a standard as frequently employed for assessment of recovery in analytical chemistry (Bronsema KJ, Bischoff R, van de Merbel NC. Internal standards in the quantitative determination of protein biopharmaceuticals using liquid chromatography coupled to mass spectrometry. J Chromatogr B Analyt Technol Biomed Life Sci. 2012;893-894:1-14). We chose to use sodium as an internal standard because it is physiologically very tightly regulated. In a previous study (Wegman DH et al. Intervention to diminish dehydration and kidney damage among sugarcane workers. Scand J Work Environ Health 2018;44(1):16-24.) sugar cane harvesters from El Salvador, providing morning blood samples four times over the harvest season, had serum levels of sodium 140 ± 1.5 mmol/L (mean ± SD; n for samples=302), i.e. very low variation between individuals, as expected. These results are consistent with widely used reference intervals. Thus, 140 mmol/L was used as the expected value for each sample in our present study, and the ratio measured/expected was used as correction factor. The appropriateness of such a correction for analytes of different molecular size and charge, including serum creatinine and cystatin C, was validated in a series of experiments (Ekström U, manuscript under revision).

The error, caused by the inadequate mixing, although minimized by the validated correction procedure introduces non-differential noise in group-wise comparisons. Observed findings are not biased, but there might be effects that could not be detected.

Supplement 2: Association between C-reactive protein levels, incident kidney injury (IKI) status, job and self-reported fever

Table 1 C-reactive protein (CRP) by incident kidney injury (IKI) status and job among harvest finishers

		Field support staff and irrigation repair workers†	Seed and burned cane cutters		
		No IKI-Measured Event	No IKI-Measured Event	IKI-Measured Event	p-value*
Total N	Units	151	244	32	
		Median (IQR)	Median (IQR)	Median (IQR)	
Baseline CRP	mg/L	1.8 (0.8,3.6)	1.3 (0,3.5)	1 (0,3.6)	0.71
ΔCRP	mg/L	0.0 (-0.9,1.0)	0.5 (-0.7,1.9)	8.3 (2.8,21)	<0.001
End-harvest CRP	mg/L	2.0 (0.8,3.5)	1.9 (0.9,4.7)	10 (6.0,25)	<0.001

† No IKI-Measured events observed among field support staff and irrigation repair workers

Δ denotes change in laboratory parameter during harvest; CRP = C-reactive protein; IQR = interquartile range.

* comparison between seed and burned cane cutters with and without IKI.

Table 2 Cross-harvest C-reactive protein (CRP) change by job and self-reported incident fever among harvest finishers

	Incident fever at end-harvest				
	No		Yes		
Job	N	Median ΔCRP (IQR) mg/L	N	Median ΔCRP (IQR) mg/L	p-value*
Field support staff and irrigation repair workers	135	0 (-1,0.8)	16	1.2 (-0.1,4.7)	0.03
Seed cutters	133	0 (-1.2,1.2)	15	3.5 (-0.7,11)	0.04
Burned cane cutters	116	1.1 (0.3,3.4)	12	17 (4.5,26)	0.002
Total	384	0.2 (-0.8,1.6)	43	3.4 (0.3,11)	0.001

Δ denotes change in laboratory parameter during harvest; CRP = C-reactive protein; IQR = interquartile range.

* comparison between those reporting and not reporting fever within the same job.