For any scheme $X$ over $\mathbb{Z}$ and any prime $p$ we consider $N_X(p)$ the number of $\mathbb{F}_p$-points of the scheme $X/\mathbb{F}_p$. Given $a$ in $\mathbb{Z}$, we study the set $\{p : p \nmid N_X(p) - a\}$. In case dim $X$ is small (lower than 3), we give a simple criterion for this set to be infinite and in this case we prove it has positive lower density.