Fix a rational inner function $f$ on $D$ with degree $N$. If one chooses any $N+1$ distinct points $x_1, \ldots, x_{N+1}$ in $D$, then the Nevanlinna-Pick problem with data $x_1, \ldots, x_{N+1}$ and $f(x_1), \ldots, f(x_{N+1})$ has a unique solution. Furthermore, essentially every Nevanlinna-Pick problem on $D$ with a unique solution arises this way. In this talk, we give some examples of Nevanlinna-Pick problems on $D^n$ with $n > 1$ demonstrating the ways in which this behavior of rational inner functions on $D$ extends and fails to extend to $D^n$. (Received September 14, 2011)