## THEORY OF DIGGING UP THE SUGAR BEET ROOT CROPS

## Volodymyr BULGAKOV<sup>1</sup>

**Abstract:** New mathematical model which describes process of a beet root crop direct extraction from soil, realized under act of vertical disturbing force and tractive effort which are transmitted the root crop from a vibration digging out end-effector is developed. The sets of differential equations which solution has enabled to determine the law of the root crop movement during its direct vibration extraction are received.

Key words: mass sugar beet, root crop, vibration digging out end-effector.

<sup>&</sup>lt;sup>1</sup> National Agricultural University of Ukraine.