crops, improves the seed replacement rate and variety replacement rates among farmers. Horizontal area expansion of oilseed crops in paddy–fallows, potato–fallows, turmeric–fallows, the North East region and command areas as the second crop and intercropping in pigeon pea, sugarcane, sorghum and cotton. Crop diversification in paddy–paddy systems of the southern states with paddy–oilseeds. Encourage the use of micro-irrigation systems in oilseed crops by providing subsidies on micro-irrigation, specifically for oilseed crops.

Dynamic policy support by an effective procurement mechanism at minimum support price for encouraging farmers to cultivate oilseed crops. Appropriate policy interventions to encourage domestic production of oilseeds and discourage imports by imposing quantitative restrictions, dynamic tariffs and reducing the credit period. Setting up of processing facilities in traditional and non-traditional areas to reduce the supply chain length, creating local demand and encouraging local consumption.

Creating awareness among consumers for optimum use of edible oil to maintain per capita consumption at the recommended levels.

This online survey determined oil consumption by the rural and urban Indian households. Total per capita oil consumption was 14.43 kg per annum. Based on the edible oil consumption survey, the NE region consumed less oil (11.09 kg per annum), followed by the north zone (11.19 kg per annum). The south, central, west and east zones consumed 13.85, 12.27, 15.37 and 14.93 kg per annum respectively.

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In silico evidence for extensive Ser/Thr phosphorylation of *Mycobacterium tuberculosis* two-component signalling systems

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***Mycobacterium tuberculosis* has the innate ability to adapt and survive the intracellular environments during infection. Two-component signalling (TCS) systems and serine (Ser)/threonine (Thr) protein kinases facilitate metabolic and growth adaptation by directing transcriptomic reprogramming in response to environmental stimuli. Presently, little is known about the post-translational regulation of TCS proteins through *O*-phosphorylation. Using the NetPhosBac 1.0 *in silico* tool, we screened components of *M. tuberculosis* TCS systems for potential Ser/Thr phosphosites. We report extensive Ser/Thr phosphorylation of sensor kinases and response regulator proteins, suggesting that it might be a distinct mechanism enabling the co-regulation of pathways impacting adaptive changes in mycobacterial growth and metabolism.**

Keywords: *Mycobacterium tuberculosis*, post-translational modification, serine/threonine protein kinase, two-component systems response regulators.

TUBERCULOSIS is a respiratory disease caused by *Mycobacterium tuberculosis*, an intracellular pathogen responsible for about 1.5 million deaths every year[1]. The pathogenic success of *M. tuberculosis* lies in its ability to adapt and survive the changing growth environments during infection. Signal transduction systems are central to this adaptability and are known to play a vital role in mycobacterial pathogenesis, virulence and persistence. There are two major arms of signalling pathways in mycobacteria, namely the traditional two-component signalling (TCS) systems and the 'eukaryotic-like' serine (Ser)/threonine (Thr) protein kinases (STPKs)[2,3] that regulate diverse cellular pathways like cell division, transport, metabolism, persistence and virulence.

Typically, a TCS system comprises a sensory component – histidine sensor kinase (SK), and a response generating component – response regulator (RR)[4]. This paired system facilitates the adaptation and survival of bacteria under different environmental stress conditions like nutrient starvation, hypoxia, nitrosative and oxidative stress (reviewed in Brett *et al.*[5]). The environmental stimulus is detected by the N-terminal variable 'input domain' of SK, which leads to

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