Statement by the Faculty of Agriculture, University of Peradeniya

on the issue of agrochemical ban

2021-05-09

According to Gazette Extraordinary No 2226/48 of May 6, 2021, the importation of chemical fertilizers and pesticides has been banned. Based on the information publicly available, the objectives of this directive are to produce healthy food free of contaminants so that people will gain health benefits and producers receive higher prices in international markets. While appreciating the initiative to achieve these nationally important goals, we (the academics of the Faculty of Agriculture, University of Peradeniya) wish to highlight potential considerations/implications arising from the said policy and propose measures, which would be appropriate towards matching the above directive to the current circumstances of local agriculture.

Short and long term implications relevant to the implementation of the above policy:

1. Agricultural production has been carried out on diverse soils with different inherent fertility levels and under varying management regimes in terms of crop establishment practices, supply of nutrients and soil amendments over decades. As a result, nutrient supplying potential of soils vary by location and by system. Further, unlike forest ecosystems where nutrient cycles are self-contained, agricultural systems need constant replenishment of nutrients at variable rates as nutrients are extracted from the system in the form of harvest and residue.
2. Crop yield responses to a total elimination of chemical fertilizers and replacement by alternative sources of nutrients are therefore highly unpredictable in diverse soils, agroecological regions and cropping systems (on average, likely to be lower than the conventional yields). Further, there may be specific cropping systems that cannot be managed with only the organic inputs, under the existing production technologies.
3. Application of alternative sources of nutrients is necessary but the expected results will depend on optimal rates of application and the maximum carrying capacity of soils. For valid scientific recommendations, experimental trials at different locations representing soils with different nutrient supplying power, different agroecological zones and different cropping systems are necessary.
4. As per the existing data, adequate quantities of organic fertilizers with the desired quality are not readily available to match the national needs. Importation of organic fertilizers and pesticides may be counterproductive to the stated policy as they may contain substances and organisms which could have irreversible negative impacts on soil quality, soil biota, plant, animal and human health.
5. While there is encouraging evidence of 'organic' pest control methods that perform comparably to 'inorganic' practices, delayed action and environmental/seasonal/varietal variations have been observed to influence efficacy of organic pesticides. Also, the lack of rapid action is a concern with organic methods of pest control when handling emergencies.
6. There are also shortcomings with respect to farmer attitudes/competency on the use of pesticides and eco-friendly management measures. Such gaps can have unintended consequences on the efficacy of a conversion to organic practices. Further, the process of conversion to organic is likely to present unforeseen economic and business challenges to local value chain actors.

7. A weaker crop (due to nutrient deficits or suboptimal protection) will always be prone to pests and diseases aggravating the threat of further yield reduction and potential post-harvest losses (perhaps in addition to the current rate of post-harvest loss).
8. Under such a scenario, food importation would become necessary but importation of food will contradict the health and economic rationale of the policy initiative. Besides, the economic livelihoods of farming community and others in the local agricultural value chains will be at risk under importation.

To address the above uncertainties and implications, we propose the following measures:

1. Reduce importation of agrochemicals only by 25% in the first stage while adhering to the Good Agricultural Practices (GAP) framework across all systems. Decide on the fertilizer types, the critical pesticide categories and their quantities that need to be imported for general use and stocked for emergency use with the recommendations of the Department of Agriculture and national research institutes. Progressive withdrawals beyond the 25% level need to be determined after expert consultation on the first stage outcomes and be implemented within a realistic timeframe.
2. Identify crop and location specific alternative sources of nutrients and pesticides based on available research data and field evidence of existing diverse farming models at different scales; and recommend feasible agricultural technologies accordingly.
3. Identify strategies to improve available technologies for large-scale production of nutrient sources and pesticides.
4. Introduce guidelines (and regulations) to assure the quality and safety of materials sourced under an organic or a 'mixed' regime of input use.
5. Develop a program of agricultural extension and outreach to train farmers and other stakeholders to conform to the new paradigm.
6. Identify marketing channels and facilitate business innovations that ensure a stable revenue flow to farmers, including farmer livelihood (and income) support during the transition to organic cultivation.
7. Introduce programs to reward technologically-efficient organic practices and 'green' innovations that can bring down the costs of production.
8. Introduce guidelines for a comprehensive monitoring and evaluation of the policy (and its implementation) within a multi-disciplinary framework.

As the academics of the Faculty of Agriculture, University of Peradeniya, we are eager to offer our knowledge, expertise and time (including necessary student involvement) in order to ensure a scientifically-sound agricultural system that can deliver food and nutrition security to the nation without compromising economic, social and environmental sustainability.