WORLD TRADE ORGANIZATION

G/SPS/W/305

11 September 2018

(18-5613) Page: 1/4

Committee on Sanitary and Phytosanitary Measures Original: English

THE ROLE OF THE WTO SPS AGREEMENT IN ENABLING ACCESS TO TOOLS AND TECHNOLOGIES AND FACILITATING INTERNATIONAL TRADE

A CASE STUDY ON FALL ARMYWORM

Submission from Brazil, Kenya, Madagascar, Paraguay, the United States of America and Uruguay

The following communication, received on 10 September 2018, is being circulated at the request of the Delegations of Brazil, Kenya, Madagascar, Paraguay, the United States of America and Uruguay.

---

1 INTRODUCTION

1.1. In the meetings of the SPS Committee in 2017, several Members shared their concerns regarding an invasive new pest to Sub-Saharan Africa, the fall armyworm (FAW, *Spodoptera frugiperda*):

- First, in March 2017, Senegal and Madagascar reported on their heightened surveillance efforts with regard to this scourge, and Senegal invited international cooperation on surveillance, sanitary control and the evaluation of progression of the FAW;[1]
- Next, in July 2017, Madagascar cited its recent emergency notifications regarding FAW and new phytosanitary certificates. Zambia reported FAW had infested all 10 of its provinces and its farmers faced serious problems. Burkina Faso reported harvest reductions of up to 90 percent due to FAW. Kenya stated FAW affected its crops and expressed concern regarding food insecurity for its population. Zambia called for partners to support capacity building in integrated pest management (IPM) and Kenya asked for help on detection, management and control;[2]
- Then in November 2017, Burkina Faso updated Members on the status of the threat posed by FAW across Africa; expressed appreciation for the collaboration across many partners to restore safety and security to its staple crops; and called for further support for IPM efforts. Senegal noted the speed at which the pest was spreading and again drew Members' attention to the threat of FAW in African countries. Togo noted that it had detected FAW in 2016 and, along with Madagascar, echoed Senegal's call for increased cooperation and technical assistance.[3]

1.2. Brazil, Kenya, Madagascar, Paraguay, the United States and Uruguay believe that the SPS Agreement offers viable strategies that African Members can employ to enable greater access to the necessary tools and technologies – physical, chemical and biological – to manage FAW in an integrated approach. Many Members across the Americas have established regulatory frameworks that enable access to these essential technologies consistent with high levels of public health and environmental protection, including frameworks conducive to commercial release of highly efficacious transgenic traits and to greater access to pesticides, including lower-risk alternatives, in the fight against FAW.

---

[1] See G/SPS/R/86, paragraphs 4.2.3 and 4.2.4.
[2] See G/SPS/R/87, paragraphs 5.3.3, 7.2.6 and 7.2.8.
[3] See G/SPS/R/88, paragraphs 2.1.4, 6.2.1 and 6.2.6.

1.3. We believe the SPS Committee can play a role in helping to mitigate the impact of FAW on food security and trade by sharing experiences on SPS approaches that reduce unnecessary burdens; increase the efficiency and predictability of science-based outcomes; and put urgently needed tools in the hands of farmers while protecting public health and the environment. To this end, this paper sets out background information on FAW and integrated pest management strategies. We also offer recommendations for further discussion in the Committee.

2 THE PROBLEM OF FALL ARMYWORM

2.1. The FAW is native to the tropical regions of the western hemisphere from the United States to Argentina. Since its first detection in West Africa in early 2016, the FAO has confirmed the presence of FAW in 39 African countries, and it is likely to become endemic in many. Native to the Americas, FAW can feed on 80 different crop species but largely prefers maize, a staple food consumed by over 300 million African smallholder farm families. A highly mobile, fast-growing pest, FAW is particularly difficult and expensive to manage, posing a significant threat to food security, income and livelihoods in Sub-Saharan Africa. If countries do not implement proper control measures, the pest could cause extensive maize yield losses, estimated between $3.6 and $6.2 billion per year across the 12 major African maize producing countries, according to initial estimates published by the Centre for Agriculture and Biosciences International (CABI) in September 2017.

2.2. The response to FAW in Africa must involve rapid dissemination of the appropriate knowledge and available tools, alongside efforts to build resilient, streamlined regulatory systems to enable access to a wider range of technologies by farmers, especially lower-risk crop protection products and FAW-resistant crop varieties. Unfortunately, in many affected countries, the best products for sustainably managing FAW are not currently available, leading to increased pest damage, risks to human and environmental health from pesticide exposure, and significant costs to farmers. In order to make these tools and technologies available to farmers in a timely manner, governments will need to develop approaches to streamline regulatory processes while safeguarding human, plant and animal health.

3 ENABLING A RANGE OF TOOLS AND TECHNOLOGIES IN GROWER IPM STRATEGIES

3.1. At the farm level, the FAO and the International Center for Maize and Wheat Improvement (CIMMYT) recommend an integrated pest management (IPM) approach to address FAW in Africa. IPM relies on agronomic management techniques, biological control, and frequent farm field monitoring to avoid and reduce pest infestation. Farmers apply direct control measures only when pest populations exceed economic thresholds to minimize the need for pesticide applications. Farmers in the Americas have been successful in controlling FAW by planting resistant crop varieties in combination with synthetic and/or organic pesticides. In some cases, FAW has developed resistance to both pesticides and transgenic Bacillus thuringiensis (Bt) traits in the Americas, though Bt resistance genes have not been found in genetic analysis of African FAW populations. Nevertheless, African farmers will need to employ a range of tools to manage this difficult pest and reduce the likelihood of resistance to specific tools.

3.2. Resilient IPM strategies require a variety of lower-risk pesticide tools to address quickly crisis pests, including FAW. There are several pesticides, both synthetic and organic, that can control FAW, without endangering human health and the environment, or interrupting trade through potential violations of pesticide maximum residue limits. However, many of these products are not available in all African countries for a variety of reasons, including a lack of a policy environment to enable registration, lack of data to support registration dossiers, inadequate extension infrastructure to farmers, or input market disincentives such as small sales potential and weak intellectual property protections. In addition, the widespread availability of inexpensive expired, off-label, counterfeit or otherwise substandard products provides unfair competition.

3.3. One of the three pillars of IPM is host plant resistance, which in the context of FAW requires maize breeders to develop and test resistant maize varieties through conventional breeding and biotechnology. CIMMYT and USDA researchers have identified resistant conventional maize varieties from the Americas. However, it will take time to cross these with African maize varieties and verify their efficacy in resisting FAW. Prior to commercialization, new seed varieties must often complete a registration process involving national performance trials. Many of the constraints on

the introduction and adoption of novel pesticides apply as well to improved seed varieties, including poor enabling policy and market disincentives.

3.4. Biotechnology offers the advantage of adding insect resistance genes encoding for Bt proteins directly into farmer-preferred maize varieties that are already adapted to African agroclimates and consumer tastes. There are at least five transgenic traits in maize that confer resistance to FAW at higher levels compared to conventionally bred resistant varieties, and these genetically engineered (GE) traits can be stacked to improve efficacy and delay insect resistance. In particular, some traits, such as Bt maize, have been highly efficacious when deployed against the FAW in Brazil, where it is widely adopted by the majority of farmers. In the United States approximately 87 percent of farmers rely on these traits for control of FAW and other insect pests susceptible to Bt. Combined, the transgenic maize traits developed for FAW have already been approved by competent authorities in over 15 countries including: Brazil, South Africa, Japan and the European Union.

3.5. However, Bt maize varieties have only been developed for a handful of East and Southern African countries. South Africa is the only country affected by FAW to have commercialized Bt maize, which has reportedly helped to limit FAW damage to their maize production. Field trials of Bt maize have been conducted in Kenya, Mozambique, Tanzania, Uganda and Nigeria, but these varieties have not yet been commercialized. Additional insect resistance traits targeting FAW have not yet begun field trials in Sub-Saharan Africa.

3.6. Under IPM, farmers can use biological control methods in conjunction with resistant crop varieties and other management approaches. Biological control methods for FAW include releasing predatory insects and parasitoids that aim to reduce pest populations within farmers' fields. Another approach involves releasing GE self-limiting FAW moths that would reduce pest populations by mating with wild FAW moths to produce non-viable offspring. The self-limiting FAW would likely require coordinated government-sponsored releases across national boundaries, similar to the sterile insect technique (SIT) employed by FAO and the IAEA since the 1950s as part of area-wide IPM strategies to suppress insect pests. The self-limiting approach has proven successful for mosquito control in Brazil. Biocontrol methods require further research to validate their efficacy and applicability to manage FAW in Africa.

3.7. Additionally, the regulatory process in most African countries for biocontrol products is unclear, especially where their use involves releasing non-native organisms into the environment. Many of the same regulatory challenges for GE crops will also apply to GE insects. Clear and predictable regulatory pathways need to be established. The development of classical biological control tools in African countries will require engagement of national and regional authorities in a wide variety of ministries to address various laws enabling biological control (such as registration, biosafety, etc.). Some African officials report a lack of technical capacity for conducting and evaluating environmental risk assessments. Capacity is also needed for implementation of stewardship of such tools once they are introduced.

4 RECOMMENDATIONS FOR THE FIFTH REVIEW

4.1. Brazil, Kenya, Madagascar, Paraguay, the United States and Uruguay believe there is a compelling need to enable greater access to safe tools and technologies in the quest for safer and more sustainable agriculture and to prevent food insecurity. We also consider that the significance of FAW, and the importance of the application of principles affirmed in the SPS Agreement to the handling of FAW, make FAW an example that could form a basis for valuable discussion by Members. To that end, we recommend that interested Members of the Committee form a working group for the purpose of undertaking the activities outlined in sections 5 and 6 of this paper. The working group could, at an appropriate time, provide a report on its activities to the Committee.

5 THE SPS AGREEMENT AND FAW

5.1. Brazil, Kenya, Madagascar, Paraguay, the United States and Uruguay note that strengthened implementation of the following principles affirmed in the SPS Agreement in the development and implementation of SPS measures carries significant potential to reduce unnecessary burdens, increase the efficiency and predictability of science-based outcomes and improve human and plant health:

a. Risk analysis;
b. Scientific evidence;
c. Harmonization;
d. International standards;
e. Transparency and predictability.

5.2. We recommend that the working group examine, identify, and discuss examples of the effective use by Members of these principles to enable greater access to safe tools and technologies to manage FAW in Africa. The working group could also determine if any of these principles have not been employed in the FAW context as well as the reasons why, and how the principle could be relevant in the future.

6 TOWARDS SAFER AND MORE SUSTAINABLE AGRICULTURE

6.1. Brazil, Kenya, Madagascar, Paraguay, the United States and Uruguay recognize that collaboration at the regional and international level to streamline and improve regulatory approaches to pre-market approvals and inspection systems (e.g., for pesticides, biotech, seeds, etc. as appropriate), with respect to products affected by FAW could support national and regional efforts to increase access to those products. Such collaboration could focus on, *inter alia*, the following areas:

a. Field trials;
b. Data portability;
c. Common application dossiers;
d. Joint risk assessments;
e. Unilateral recognition of the results of risk assessments/regulatory determinations;
f. Mutual recognition.

6.2. We recommend that the working group collect and compile information and experiences resulting from collaboration in these areas. The compilation could serve as a resource for national and regional authorities with capacity or expertise constraints in the development of their own systems and strategies. The compilation would obviously not affect Members' rights and obligations under the SPS Agreement.

6.3. Brazil, Kenya, Madagascar, Paraguay, the United States and Uruguay believe there is a compelling need to enable greater access to safe tools and technologies in the quest for safer and more sustainable agriculture and to prevent food insecurity. We recommend that interested Members of the Committee form a working group to develop these documents outlined in sections 5 and 6 of this paper for consideration by the Committee under the Fifth Review.