LEGAL STANDARDIZATION OF THE USE OF REMINERALIZERS: LIMITATIONS AND PERSPECTIVES[1]

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Summary

This paper addresses the issue of the legal framework of fertilizers in Brazil (Federal Law nº 6.894/1980) as well as other regulatory instruments – Decrees and Normative Instructions – that aim for its regulation. Specifically, it addresses the need to amend this legal framework, since it does not provide for or does not allow the commercialization and use of enriched rock dust in order to positively influence the fertility of the soil, as established by Remineralization technology. It shows the process of amending the fertilizers law and how this might affect the sovereignty of the country, one of the largest importers of inputs for agriculture.

Keywords: Laws, Fertilizers and Remineralizers

Introduction

Public policies and government incentives directed towards the agricultural sector have served to ease a series of difficulties related to the access, supply and, ultimately, Brazil's own sovereignty with regard

1 This paper was elaborated and presented before the passing of Federal Law 12.890/2013, which amended Federal Law 6.894/1980, which provides for the use of remineralizers as a category of input for agricultural purposes. It is important to mention that this law, which is a result of the work of many researchers and specialists from different institutions and government agencies, opens a new horizon for Brazilian agriculture, once rock dust is well distributed throughout the country. Nevertheless, there are still limitations that must be overcome. The main obstacle is the regulation of the law by Normative Instruction, which is currently under way. Therefore, the current perspectives are very positive for the use of and commercialization of these geological materials, or their by-products, for Brazilian agriculture. It is important to point out that Brazil is a pioneer in the world by creating specific legislation for the use of remineralizers as agricultural inputs. This fact may be a key factor for an important future change in our country, considered the world's breadbasket, and home to a vast geodiversity.

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to soluble fertilizers, since according to data from the Ministry of Agriculture, Livestock and Food Supply (known as MAPA), Brazil is the fourth largest consumer of fertilizers in the world, and yet has an insignificant level of production.

Access to fertilizer is an especially dramatic issue for family farmers, since prices are still on the rise, be it because of a large global demand, or because the main sources of such inputs are increasingly restricted, since at its origin, these inputs represent mineral goods that are being depleted.

An alternative to at least partially solve the dependence problem and the high acquisition cost is to consider new technological alternatives, which provide for the use of alternative sources, which must be able to simultaneously raise the low fertility levels of highly weathered tropical soils, but also show results in terms of production, that are compatible with the expectations of farmers, or at least reach a sustainable level among the various agroecosystems.

Remineralization technology, which provides for the use of rock dust to remineralize the soil and facilitates the achievement of a sustainable agricultural production, has shown very positive results with regard to these two items: compatible levels of productivity, in many cases higher than those obtained with soluble fertilizers, and significantly lower purchasing costs, 60% to 80% cheaper than conventional sources. Despite these results, Brazilian legislation, and probably that of any other country, does not provide or allow the commercialization and use of materials derived from rocks for agricultural use, with the exception of limestone and phosphate rocks.

As a contribution towards the solution to this dilemma, this report addresses the issue of Brazilian legislation relating to fertilizer and rock dust (remineralizers or agrominerals). Therefore, this paper discusses the lack of legal standardization and points out the prospects for the establishment of a legal framework for the sector, since without regulation the use and commercialization of such materials are restricted and subject to risks due to non-observance of minimum guarantees.

Legal Framework

Research developed in Brazil and abroad show that the remineralization of soils, by means of enrichment with macro and micro-nutrients, derived from rock dust, results in compatible levels of production that are comparable to those obtained with the use of soluble fertilizers (Carvalho, 2010 and 2012; Leonardos et al. 1976 and Theodoro and Leonardos 2011, van Straaten, 2007 among others). However, despite the large amount of positive results, there is an important impediment to the widespread use of rock dust. Its use is not legally provisioned as a soil fertilizer.

Currently, the regulation of the fertilizer sector is bolstered by three legal instruments: (i) the Fertilizers Law (Federal Law nº. 6.894/1980); Federal Executive Decree nº 4.954/2004, regulating the Fertilizer Law, and normative instructions (NIs), especially the NIs 27/2006 (which establishes limits for contaminants) and 35/2006 (which relates to correctors and conditioners), decreed by MAPA. Law nº 6.894/1980 provides for the inspection and supervision of the production and sale of fertilizers, correctors, inoculants and bio-fertilizers destined for agriculture. This law contains nine articles, among those, Art. 2, that ascribes the mandate to oversee production and sales to MAPA, and Art. 4, which establishes the compulsory registration of related establishments and products.

None of these three legal instruments is expected to provide a category that allows the use, commercialization or the overseeing of soil remineralizers derived from rock dust, since due to their diverse characteristics, it is not possible to include rock dust within the existing categories of inputs (conditioners, fertilizers etc.). The review of one, or all, of these legal instruments is an important factor to make the use of remineralizers feasible.

Considering the impact that fertilizer prices have on the Brazilian trade balance and, more recently, the perception that such inputs contribute to environmental problems, some initiatives seek to change this situation. A task force, coordinated by the Ministry of Mines and Energy (MME) in partnership with several other public institutions, among which stand out the Ministry of Agriculture, Livestock and Supply (MAPA), Ministry of Science, Technology and Innovation (MCTI) Brazilian Geological Service

(CPRM), National Department of Mineral Production (DNPM), Petrobras, Embrapa and universities, has been discussing alternatives and suggesting parameters to change the legal framework.

Parallel to this, two bills have been presented in Congress on Federal Legislature, PLS 212/2012 and PL 2727/2011, which seek to change Law nº 6.894/1980 or encourage the use of rock dust. The first includes remineralizers as one of the categories of fertilizers and, the second, creates a National Program for Soil Mineralization. Considering the advanced state of the proceedings of the PLS 212/2012, which currently is in the House of Representatives, with the reference number PL 4781/2012, it is possible to conclude that this year (2013) the President may be able to sanction a new law that amends Law nº 6.894/1980. The bill mentioned is being vetted by the last of the House's Committees (CCJC – Constitution, Justice and Citizenship Committee), where it will be analyzed as to its constitutionality and legality. This bill was introduced by Senator Rodrigo Rollemberg (PSB/D).

Despite this expectation, it is important to remember that the legislative process is generally very slow and depends on a number of conditions until a bill becomes a statute. During this review process and voting by congressmen from both legislative houses – the Federal Senate and House of Representatives, the content is subject to being partially or fully amended, since it is possible that the various interest groups actively lobby congress to tailor the bills to specific interests. Lobbying is a legitimate activity since society can and must manifest itself in the elaboration of laws. However, in Brazil this activity is usually seen as illegal and unethical, since it has not yet been regulated and, thus, allows for abuse.

Besides the involvement of external (civil society) or internal (congressional representatives, legislative consultants and advisors) actors, a proposed bill obeys a vetting process. Queiroz, 2006, reminds us that the transformation of a bill into a statute has a formal procedure provided for in the Federal Constitution, in complementary law and internal regulations of the houses of Congress (House of Representatives, Senate and/or National Congress). Theodoro et. al (2011) complements this information and mentions that the vetting is done by several committees and, occasionally, on the house floor, and only then will it be

forwarded for sanction by the President of the Republic, who can sanction the text exactly as proposed by the Legislative Assembly, or veto the bill, partially or fully. When a veto occurs (even partial), a justification accompanies the text of the new law, explaining the grounds for the veto.

Finally, the sanctioned bill is sent for publication in the Federal Official Journal (Diário Oficial da União, known as DOU). However, in the case of a veto, lawmakers still have the prerogative to consider the reasons that led the President to veto the bill as approved in the Legislative Assembly. In these cases, according to Queiroz (2006), to override the veto, Congress evaluates and votes if the veto will stand or if the original bill must be sanctioned. For such an action, it is necessary that a joint session takes places with the members of both houses (House of Representatives and Senate), within 30 days after receiving notice of the veto. The absolute majority of the members must vote to override the veto in this joint session, through closed ballot.

After this succinct presentation of the path that a proposed bill must undertake, it becomes easier to grasp the reason why it may take a long time between proposing a bill and enacting a law. The flowchart shown in Figure 1 illustrates the legal process to get a bill approved. Despite rules of both houses of Congress setting deadlines for each step, the time that a bill takes to be enacted as a law is extremely variable and depends primarily on political will, cooperation between branches and the involvement of pressure groups (Theodoro et. al. 2011).

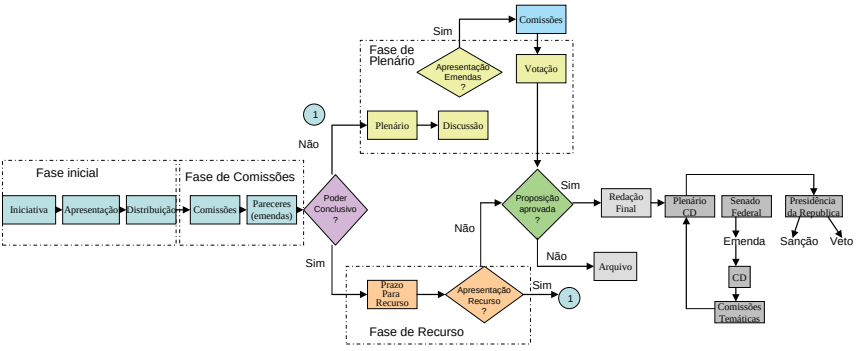

Figure 1. Flow chart illustrating the legal process of a proposed bill.
Source: Souto, 2008 apud Saboya (2006)

In addition to these legislative initiatives, it is important to note that the Federal Government is aware of the demand for fertilizers and its influence in the country's development. In an attempt to reverse or mitigate this problem, the Executive Branch has sent the National Congress, last year (2012), an Executive Order, so-called Temporary Measure (Medida Provisória), nº. 582/2012, which, in article 5, establishes the Special Regime of Incentive for the Development of the Infrastructure of the Fertilizer Industry (REIF), which aims to encourage the creation or expansion of infrastructure for the production of fertilizers and their inputs. The assessment of these Temporary Measures in the National Congress has a much-differentiated approval procedure, meaning they are processed much faster than common bills. This Executive Order was converted into law No. 12.794 on April 2, 2013 and is currently in the process of being regulated by the Executive Branch. Despite this being a sign that the Federal Government is aware of the problem of dependence on external inputs, the mentioned law does not innovate or encourage the use of technologies or materials available locally, such as remineralizers. However, there is an expectation that the rules yet to be established may somehow create an incentive for the national mineral sector, in order to facilitate access to subsidies provided by law, in order to build processing plants specific to remineralizers. In this case, however, there is still the need for adequate licensing by the DNPM (National Department of Mineral Production).

Possible Path[4]

With regard to the Bill 212/2012, the processing time was faster because the matter was dispatched for vetting (by the Senate and the House leadership) to only three committees: CRA –Agriculture and Rural Reform Committee; CAPADR – Agriculture, Livestock, Supply and Rural Development Committee and CCJC – Committee for Constitution, Justice and Citizenship,

[4] The processing and approval of the bill PLS 212/2013 (otherwise referred to as PL 4781/2012 as referenced by the House of Representatives) by the Congress can be considered as an example of fast processing, since from the time the bill was proposed (06/12/2012), in the Senate, until the final vote (11/12/2013), by the members of the House, the bill took only one year and 5 months. The bill was sanctioned in the regular constitutional period (15 working days after being presented by Congress). This short time frame is relatively uncommon in the legislative process.

respectively. In addition, there is a consensus among the Committees that this is a matter of national interest, which tends to facilitate the approval.

In addition to the amendment of the law, another option that could facilitate the commercialization and use of remineralizers is the amendment of Federal Decree nº 4.954/2004, since this legal instrument is a mandate of the Executive Branch. However, despite this matter being considered as strategic by the Government, no real changes occurred in Decree nº 8.059/2013, recently decreed by the Executive Branch, frustrating industry expectations.

Another possible alternative would be to amend the Normative Instructions, particularly NI 35/2006, since this would be the easiest and fastest means of modifying the regulatory structure by including rock dust within the category of "soil conditioners", with due safeguards. The definition of soil conditioner, provisioned by NI 35/06, is that such input should promote the improvement of physical and physic-chemical properties or soil activity. In this respect, rock dust could be included in this category, since it improves physical and chemical properties of soils. However, the geological materials do not meet the two important specifications determined by the NI, namely Water Holding Capacity that is 60%, and the Cation Exchange Capacity (CEC), which must be of at least 200 mmolc/kg. The amendment of this NI by setting, for example, different limits for these parameters, and adding some restrictions, could facilitate, in part, the use of remineralizers to reduce Brazilian dependence and, as a last resort, prices, since rock suitable for this purpose is well distributed throughout Brazil.

However, there is a concern, in particular by the task force headed by MME, in regards to the understanding of the mechanisms of solubilization and the quantity of heavy metals present in rock dust. Currently NI 27/2006 establishes the boundaries of these toxic heavy metals in fertilizers, correctors, soil and substrate conditioners for plants, but it will be necessary to lay down certain minimum guarantees to ensure that there will be no environmental hazards and health effects, since the rock dust may contain these components.

Such impasses and delays suggest that the country is in a contradictory crisis as it maintains its dependency on the external acquisition of inputs to make its agricultural model viable, while being one of the largest potential producers of minerals on the planet. Results obtained in recent years have proven that the use of rock dust or remineralizers is a possible path for Brazil, with the advantage that this technology will strengthen a sustainable agricultural model, ensuring good production levels and enabling the maintenance of farmers in the countryside. Remineralization technology assumes that the maintenance of soil fertility is part of a

strategy involving conservation of natural resources, supply of nutrients in adequate amounts and sovereignty, with the reduction of dependence on external inputs. Furthermore, favors healthier food production, through a greater supply of nutrients, contributing to the achievement of adequate food and nutritional standards (Theodoro e Almeida, 2013)

Conclusion

In the current scenario of an inadequate regulatory framework, Brazil will remain heavily dependent on imported fertilizers, which are expensive and cause serious environmental damage, such as eutrophication of water supplies and contributing towards the greenhouse effect.

The apparent political will of the Federal Government, in particular from the MME and the MAPA, to seek alternatives on the matter of fertilizers in Brazil, indicates that there is interest to change, through a legal redefinition of these materials and harmonization of the legal framework with the current needs of the country. Without this, the sector that has been continuously achieving record harvests faces a serious risk. Despite the regulatory structure not provisioning for this technological option, research and innovation continue delivering results that qualify rock dust technology as an important technological option for countries that, like Brazil, have a large geodiversity and an extremely dynamic agricultural sector which demand new technological routes.

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