

Yields of Biodynamic Agriculture of Ernst Stegemann (1882-1943): Experimental Circle Data of the First Biodynamic Farmer

John Paull

ABSTRACT

Ernst Stegemann (1882–1943) was the first biodynamic farmer. He was an Anthroposophist with a 375 acre (150 hectares) mixed farm at Marienstein, midway between Frankfurt and Hamburg, Germany. Stegemann attended the Agriculture Course at Koberwitz (now Kobierzyce, Poland) in June 1924 at which the New Age philosopher, Dr Rudolf Steiner (1861–1925), laid the historical foundations for biodynamic and organic farming. Stegemann was a founding member of the Experimental Circle of Anthroposophical Farmers and Gardeners which was founded by Steiner during the Koberwitz course. Prior to the Course, Steiner gave Stegemann some preliminary insights on agricultural practice. Steiner’s injunction to the farmers and gardeners of the Experimental Circle was to test his “hints” for a new and then un-named agriculture, to establish what works, and then to publish the results, and thereby bring the ‘era of secrecy’ to a close. Until that point, members of the Circle were to maintain confidentiality of the Course and experiments. The present paper reveals some of the earliest results of putting Steiner’s indications to the test. For Stegemann, over eight years, the annual yield for sugar beet show increases using Biodynamics of up to 26% (compared to the base year of 1923). The annual yield for “cereals” show increases using Biodynamics of up to 42% (compared to the base year of 1923). Stegemann’s longitudinal yield data were presented in June 1931 to Experimental Circle members, under constraints of confidentiality, at his farm at Marienstein (in the then Province of Hanover; now in the German state of Lower Saxony), and now appear unbridled from those constraints of confidentiality.

Keywords: Anthroposophy, Biodynamic agriculture, Biodynamic farming, Experimental Circle of Anthroposophical Farmers and Gardeners, Koberwitz, Rudolf Steiner.

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John Paull*

University of Tasmania, Australia.
(e-mail: j.paull@utas.edu.au)

*Corresponding Author

I. INTRODUCTION

The development of the Haber-Bosch process to ‘fix’ Nitrogen from the air led to the development of mass production of abundant explosives used in World War 1 (1914–1918) with devastating effect; the industrial process was subsequently repurposed to produce synthetic fertiliser for agriculture [1], [2]. Early pushback to this agricultural industrialisation was by the New Age philosopher Dr Rudolf Steiner (1861–1924) at Koberwitz (now Kobierzyce, Poland) in the summer of 1924, in his Agriculture Course in which he called for a differentiated agriculture which would take a biological rather than a chemically-dependant approach to farming [3], [4].

Ernst Stegemann (1882-1943) was at the vanguard of pioneers advancing Rudolf Steiner’s ideas from podium to paddock. Stegemann was a farmer, an Anthroposophist, and a Koberwitzer [5], [6].

At the Agriculture Course, Steiner founded the Experimental Circle of Anthroposophical Farmers and Gardeners. The task of the Experimental Circle was to put his agricultural “hints” to the test, establish what works, and to publish the results [7], [8]. It was a sound plan; Steiner was charismatic polymath, but he was neither farmer nor

gardener. The contents of the Agriculture Course and any experiments were subject to a confidentiality agreement until such a time. The publication by Ehrenfried Pfeiffer (1899-1961) of his book ‘Bio-Dynamic Farming and Gardening’ in 1938 in multiple languages, arguably extinguished that confidentiality agreement [9]–[11].

During the ‘era of secrecy’ of Biodynamics (viz. 1924–1938), Ernst Stegemann shared (in 1931) his longitudinal yield data of Biodynamics to members of the Experimental Circle at his farm at Marienstein, Germany. These data are recovered and reported in the present paper.

The Nazi regime banned all books by Rudolf Steiner, and others, in 1935. Following this edict, both public and private libraries were raided and looted of books by banned authors and there were public book burnings, to some public acclaim. Stegemann died during WWII, so he did not live to see the bans on Rudolf Steiner and Anthroposophy expire along with the defeat of Germany and the collapse of the Nazi regime.

II. METHODS

A project to examine historical data of Biodynamics’ pioneers revealed the data reported in the present paper. Dr Carl Alexander Mirbt (1902–1975) of the UK’s

Anthroposophical Agricultural Foundation (AAF) attended the conference of the Experimental Circle of Anthroposophical Farmers and Gardeners held at Ernst Stegemann's farm at Marienstein in June 1931, seven years after Koberwitz [12].

The data reported here were presented by Stegemann to Experimental Circle members at the 1931 conference. At the time, members of the Experimental Circle were under the double constraints of a signed confidentiality agreement plus Rudolf Steiner's personal injunction to maintain secrecy until the methods were proven and published. These data are now made available for a wider audience. The data throw light on the conditions prevailing at the time and the results reported by a Biodynamics pioneer during the gestational period of Biodynamics and before its public outing by Ehrenfried Pfeiffer in 1938.

Stegemann's data were preserved by Mirbt's reportage in the UK's Anthroposophical Agricultural Foundation Notes and Correspondence. Mirbt was the co-editor along with Marna Pease [13] of Notes and Correspondence, which was issued to members of the AAF. While Notes and Correspondence is indexed in the world's database of library holdings (worldcat.org), nevertheless there are no copies publicly held: "No libraries on WorldCat.org hold this item" (worldcat.org at 02.04.2023). So, the data are otherwise generally 'lost' or unavailable.

The confidentiality agreement prevailing at the time, was arguably extinguished by the publication of Ehrenfried Pfeiffer's book Bio-Dynamic Farming & Gardening [10]; this was a time when the world was on the threshold of the catastrophe of a new world war. Much of the work on Biodynamics was snuffed or stalled by World War II. In Nazi Germany Anthroposophy was banned, and the war brought pressing issues of scarcity, hardship, and survival. Not all of the Biodynamics pioneers survived the war; Stanislaw Karłowski in Poland was summarily executed in the town square of Gostyń by invading Nazi forces [14]. And not all of the biodynamic enterprises survived the war. Ernst Stegemann died in 1943. Post-war Germany was in a state of turmoil.

The name of the subject of the present paper appears as both 'Stegeman' and 'Stegemann' (i.e., variant spellings) in various accounts, and sometimes as both in a single account [e.g., 15]. The spelling of 'Stegemann' appears to be the correct variant and is adopted here throughout, including in quotations. The terms 'Biodynamics', 'Biodynamic farming', 'Biodynamic agriculture', and 'BD' are used interchangeably in the present paper.

III. RESULTS

Ernst Stegemann farmed 375 acres (152 hectares) at Marienstein [12], then in the Province of Hanover, now in the German state of Lower Saxony. Marienstein is near Göttingen (10 km), it is 110 km south of Hanover, and midway between Hamburg (to the north) and Frankfurt (to the south).

Carl Alexander Mirbt reported that: "The farm is very intensively managed; of the 375 acres, 345 are cultivated with the plough, 12 acres are meadowland, about 20 acres pasture. The work is done by 16 permanent Labourers with an

additional 12 seasonal workers. There are 16 horses, 72 head of cattle of which about 37 are dairy cows, and 27 pigs" [12, p. 77].

Mirbt reported: "The house, once a monastic building, adjoins the church, which can even be entered directly from it ... The farm buildings are surrounded by the cottages of the labourers, the fields extend partly into the very fertile valley of the river Leine, partly up the hills to the forests." [12, p. 77].

Stegemann (Fig.1) was a member of the Council of the Anthroposophical Society in Germany [16]. He was described as "the leader of the Research Group of Anthroposophical farmers in Germany" [17, p. 110]. Stegemann traveled at least as far as Königsberg (now Kaliningrad, Russia) advocating for Biodynamics [18]. Some farmers were "sceptical" [18, p. 58] of these Steiner devotees, and Dr Erhard Bartsch reported that "In spite of common efforts it was also rather difficult to explain to the interested farmers the action of etheric upbuilding forces in cosmos, earth, and man" [18, p. 57].

Ernst Stegemann was a foundational member of the General Anthroposophical Society (GAS), Dornach, Switzerland (his membership is dated January 1924), he was also a member of Rudolf Steiner's First Class (dated April 1924), and his address was: Hardenberg, Marienstein b. Nörten, Deutschland (Mitgliedersekretariat am Goetheanum, personal communication, 2023).

Stegemann had been on the 'agricultural journey' of Rudolf Steiner since its beginning. Ehrenfried Pfeiffer recalled that: "In 1922/23 Ernst Stegemann and a group of other farmers went to ask Rudolf Steiner's advice about the



Fig. 1. Ernst Stegemann (image source: Forschungsstelle Kulturimpuls).

increasing degeneration they had noticed in seed-strains and in many cultivated plants. What can be done to check this decline and to improve the quality of seed and nutrition? That was their question” [15, p. 1].

Pfeiffer states that: “Ernst Stegemann was given special indications as to the point of view from which a farmer could approach his task ... as a first impetus towards the subsequent establishment of the biological-dynamic movement” [15, p. 2].

Mirbt reported that: “Herr Stegemann had already started in 1922 to put into practice certain advice given him in private talks with Rudolf Steiner. After the Agricultural Course in Koberwitz, he immediately adopted the more fully complete and detailed indications given” [12, p. 77].

After Koberwitz there were regular conferences of the Experimental Circle of Anthroposophic Farmers and Gardeners. Venues for these conferences included the Goetheanum, Anthroposophy headquarters in Dornach, Switzerland [17], [19] and Ernst Stegemann’s farm at Marienstein [12], [20], [21].

Stegemann’s farm was the venue in 1931 of the conference of the Experimental Circle marking the seventh anniversary of the Agriculture Course of 1924 at Koberwitz. At the Seventh Anniversary Conference there were “fifty to members of the Experimental Circle” who met for four days, “while a fifth day was devoted to a public gathering attended by some hundred farmers” [12, p. 77].

Stegemann reported his results of using the ‘biological-dynamic methods’ (the cumbersome term used in 1931; at the time the terminology was midway on its evolutionary path from ‘Anthroposophical agriculture’ to ‘Biodynamic farming’) [22].

The Stegemann data for sugar beet under Biodynamic cultivation reveal yield increases ranging from 3% to 26% (over seven years) (compared to the base year of 1923) (Fig.2). The data for “cereals” under Biodynamic cultivation reveal a yield decline of 19% in the first year and yield increases ranging from 14% to 42% in the subsequent six years (compared to the base year of 1923) (Fig. 3).

Conference delegates heard that: “The conditions of the soil improve greatly under the new methods. It becomes much more friable, not so much, perhaps, as a direct result of the preparations, but rather because no mineral manure [i.e. synthetic fertiliser] with its great tendency to form surface crusts is used, also because more organic matter is brought into the soil. The loose nature of the top layer especially appeals to every farmer, as the soil is more easily worked and the whole water-household of the soil is improved” [12, pp. 78–79].

“All Herr Stegemann told us could be more than verified when the fields were inspected, and found extremely healthy, and promising a very good harvest this year” [12, p. 79].

Evident already, at this early point in the evolution of biodynamic agriculture, was an awareness of issues that are with us to the present: consumer attitudes, “the nutritive value of our food”, the linkage of food with health, product differentiation, product segregation, and that “the products of our anthroposophical methods ... reach the consumer unadulterated” [12, p. 81].

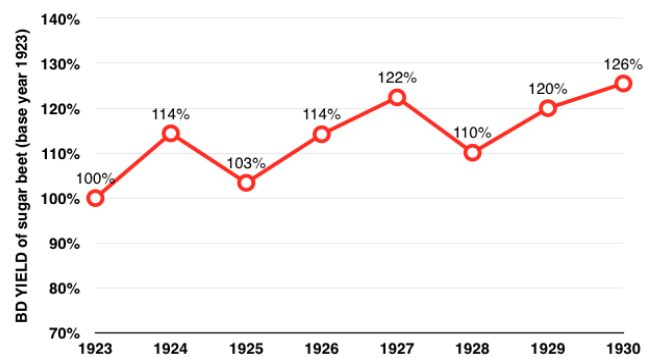


Fig. 2. Yield of sugar beet under Biodynamic cultivation (compared to the base year of 1923). Data source: [12].

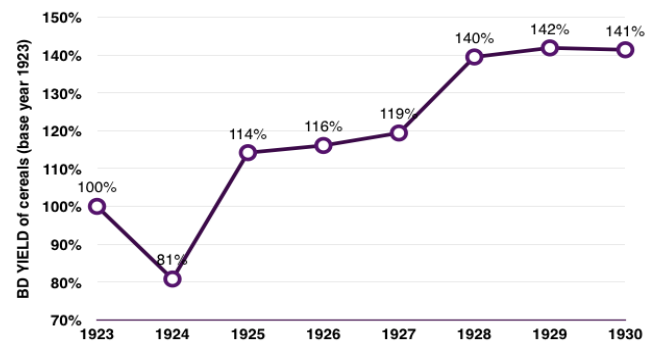


Fig. 3. Yield of cereals under Biodynamic cultivation (compared to the base year of 1923). Data source: [12].

When Australia’s pioneer of biodynamic agriculture, Ernesto Genoni (1885-1975), travelled to Europe in 1930 to inform himself about the practices of Biodynamic agriculture, one of those on his visit-list was Ernst Stegemann [23], [24]. Ernesto’s eldest sister Rosa wrote of: “Ernesto ... a former artist who goes to the cattle market to buy and bargain or sell a cow or piglets!! ... in order to make the farm active and in the shortest time to implement it according to the teachings of Mr [Ernst] Stegemann where he worked in Germany for several months ... four years are needed to organise and activate a biological farm” [25, p. 2].

IV. DISCUSSION AND CONCLUDING REMARKS

The German farmer, Ernst Stegemann, was a key figure and a ‘leading light’ in the early days of the Biodynamics movement, and thereby the organics movement. He discussed agriculture with Rudolf Steiner at Dornach, Switzerland, before the Agriculture Course at Koberwitz, he attended the Course in 1924, and he took up a leadership role in the Experimental Circle of Anthroposophical Farmers and Gardeners (founded at the Course).

By the time Steiner reached Koberwitz in June 1924, he was frail and ill, he retreated to his sick bed just three months later (in September 1924), and there he remained until his death (on 30 May 1925) [26]. If Steiner’s vision of agriculture was to be realised, it would be up to others. Stegemann was in the vanguard of those ‘others’.

The earliest adopters of Biodynamic farming were driven by personal devotion to Rudolf Steiner and Anthroposophy. The task of the Experimental Circle was to establish a suite of biological agriculture practices that demonstrably worked, with the view that those outside of the fold of Steiner and Anthroposophy could logically adopt this novel suite of

practices. One such enthusiast and early adopter of Biodynamics, who was exceptional in being neither a Rudolf Steiner devotee (they never met) nor an Anthroposophist (he saw his Catholic religion as sufficient to meet his spiritual yearnings) was Stanisław Karłowski, a former banker, who farmed ‘by the numbers’ and established what was then probably the world’s biggest Biodynamic farm (in the 1930s in Poland until he was executed by firing squad by the Nazis in 1939) [14].

During the ‘era of secrecy’, the gestational period of Biodynamics, there was a lack of external scrutiny, and advocates and devotees at Experimental Circle conferences were ‘preaching to the converted’. Mirbt reported Stegemann’s results to the fledgling Anthroposophical Agricultural Foundation (established 1928) based in Bray-on-Thames, UK [13]. After almost a century, and without the constraints of the confidentiality provisions prevailing at the time, the present paper makes these historical results of Biodynamic farming yields available to a modern audience.

The early results of Biodynamic farming, together with the ardour of devotees, spurred the uptake of BD farming. Biodynamic farming is now practiced in 55 countries, led by Germany and Australia which together account for 53% of the global BD hectares [27].

Ernst Stegemann died during the course of WWII at Marienstein on 3 February 1943 [5]. Anthroposophy was banned by Hitler, and all books by Rudolf Steiner were banned in 1935. So, at the time of his death, Stegemann had been operating for the best part of a decade in an environment that was hostile to Anthroposophy and Anthroposophic ventures, and these were turbulent times. It appears that the personal manuscript journals and records of Stegemann have not survived the passage of time, yet perhaps there is a cache awaiting discovery?

CONFLICT OF INTEREST

The author declares no conflict of interest.

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