Effects of Agricultural Methods on Dietary Values of Organic Food

Sonali Gawande*, Abhay Deshmukh

Research Scholar, Department of Agronomy, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Dist. Ratnagiri, Maharashtra, India

*Author for Correspondence: Email Id: soniagawande71@gmail.com

ABSTRACT

Customers' worries about potential adverse health effects of foods produced by intensive farming techniques have led to a significant increase in the medical benefits of naturally produced goods and living things. The likelihood of widespread client understanding that such tactics result in more healthful food sources is very high. The current survey makes the assumption that reality cannot be reached in the logical writing to support or refute such understanding. Few studies have focused at the animal products (meat, milk, and dairy products) distributed under the two farming frameworks, while a small number have examined the supplement syntheses of naturally and traditionally generated crops. Despite sensibly trustworthy discoveries for higher nitrate and lower nutrient C content of commonly produced vegetables, transcendently leafy vegetables, few compositional discrepancies have been explained. Astonishingly little is known about the possible consequences of diets containing natural or traditional products on the health of humans and other animals. Controlled experiments on animal models typically yield information that is incomplete or poorly organized, and findings from these investigations often lead to contradictory conclusions. As of this writing, there are no reports of controlled impedance concentrates being used on humans. Examination of health outcomes in populations that regularly consume naturally occurring or expectedly provided foods is flawed due to the vast number of frustrating factors that may further compound any differences found. If consumer perceptions of the intended medicinal benefits of natural food sources are to be supported, more research of higher quality is required than what is now available.

Keywords: Organic foods, Nutritional quality, Scientific studies.

INTRODUCTION

Natural food is gotten from yields or animals created in a cultivating framework that maintains a strategic distance from the utilization of man-made composts, pesticides, development controllers and domesticated animals feed added substances. Natural cultivating frameworks depend on crop turn, creature and plant composts, some hand weeding and organic nuisance control. Albeit the natural cultivating development in the UK traces all the way back to the Second World War, there has been a checked expansion in the interest for natural food sources in the course of the last 5–10 years, with ensuing development of this specialty market [1]. At any rate to some extent, this interest seems to reflect customer concern in regards to the wellbeing of food created under serious cultivating frameworks. Notwithstanding the broad conviction held by the public that natural food is 'more grounded' than food sources delivered utilizing traditional cultivating, proof to help this discernment is hard to recognize. This trouble emerges on the grounds that extremely restricted examination has been led and a large part of the accessible logical information is out-dated or dependent on lacking investigation plans [2].

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According to all accounts, the belief that naturally occurring food sources are "more grounded" than traditionally distributed food sources is based on the realization that natural foods tend to have more tangible benefits, lower concentrations of pesticides and synthetic fertilizers, and higher concentrations of vitamins and protective phytochemicals.

However, it has also been suggested that the usage of faeces and reduced use of fungicides and anti-microbials in natural farming may result in a greater contamination of natural foods by tiny organic entities or microbial things [3]. These more in-depth hygienic and quality aspects have recently been examined elsewhere. The current study will be constrained by the logical writing about how changing conditions affect the wholesomeness of food. However, as pesticide accumulation levels have the potential to influence supplement levels in some way, this topic will also receive some brief consideration.

Obvious ends can't be drawn from the current survey, since not many of the examinations directed to date stick to ideal measures for assessing impacts of the two developing frameworks on dietary quality. Such assessments will possibly permit unequivocal understanding in the event that they include indistinguishable strains of plants or creatures developed and put away under in any case comparative conditions (for example light openness). Sadly, not many of the investigations inspected in the current section can be considered to satisfy these thorough standards [4].

Impact of Horticultural Techniques on Healthful Quality

Natural food production has become more commonplace in part due to the undeniably unstoppable realization that using this method of production results in food with higher nutritional value. However, there is still a lack of evidence that may clearly support or refute this judgement because there have been so few meticulously controlled studies comparing naturally vs. traditionally developed harvests. Two oppositely restricted proclamations that are currently being circulated on the internet clearly demonstrate the degree of the differences.

While a publication on the site of the American Council on Science and Health (Klurfeld, 2000) states 'Not a solitary distributed examination has shown any distinction in the supplement substance of natural versus customary ranch produce', the Mothernature site (www.mothernature.com) upholds the view that natural food is more grounded than customarily developed food' in light of exploration in Denmark and Germany showing that organically developed food sources contain more significant levels of supplements.' Three logical surveys of the distributed writing here lately have neglected to reach complete determinations, albeit every one of the surveys illustrates patterns for higher groupings of certain supplements in natural produce contrasted and expectedly developed produce. The Worthington (1998) survey likewise reasons that the proof for unfriendly impacts of regular feeds on creature wellbeing is genuinely solid [5].

The current survey will assess proof for contrasts in the dietary nature of expectedly developed *versus* natural produce dependent on three types of study:

- 1) Nutrient examinations of yields developed under the various conditions;
- 2) Health results in controlled creature taking care of studies; thought of little observational and controlled mediation concentrates in human subjects.

Impacts of Agricultural Methods on Animal Health

Hardly any controlled mediation considers have looked at impacts of natural and expectedly developed feeds on creature wellbeing in the long haul, and a significant number of the investigations announced in the writing are incredibly dated. To be sure, a portion of the examinations were initially led during the 1920s and 1930s by researchers exploring 'fundamental development variables' or nutrients. The early work of McCarrison (1926) showed that birds took care of an enhancement of millet developed utilizing various kinds of manure showed checked contrasts in weight acquire over a time of 2 months.

The best development execution was found in pigeons took care of millet developed under steers compost, while millet developed under mineral manure upheld much lower development rates. Table 2 sums up examinations led somewhere in the range of 1926 and 1992 that have evaluated either weight or regenerative execution of rodents or bunnies took care of natural or expectedly developed feed. As on account of the supplement arrangement information, alert ought to be utilized in setting exorbitant dependence on the discoveries, some of which have been distributed distinctly as results from dissertations. Deficient information is accessible to introduce synopsis tables for species other than rodents and bunnies. Reproductive execution is by and large thought to be a vigorous ecological wellbeing marker since it is less influenced by hereditary determinants than different results [15-18].

Just one examination (Scheunert *et al.* 1934) noticed more awful execution in naturally took care of creatures (rodents), despite the fact that Scott et al. (1960) showed mice took care of a blended natural and customary feed had more unfortunate conceptive execution than those raised either on ordinary or natural feed alone. A greater part of the examinations found that creatures given natural feed fared better compared to those took care of customary feed [19-22]. Though a portion of the previous examinations in bunnies discovered obvious proof for diminished egg creation and strange histology in routinely took care of creatures. One of the reactions of the previous examinations is that the supplement creations of the weight control plans were much of the time diverse between the two gatherings. Late investigations have given all the more thoroughly controlled supplement conditions. Nonetheless, even these investigations have not exhibited concordant discoveries, with a portion of the examinations showing higher pregnancy and birth rates, while in different examinations advantageous impacts of natural feeds on number of live births were the principal discoveries. The later investigations in rodents have likewise in general notice most prominent impacts on quantities of stillborn creatures and on perinatal mortality [23-26].

In view of the information accessible from controlled creature taking care of studies, there gives off an impression of being humble proof to recommend that natural feed may effectively affect creature wellbeing, especially regarding multiplication and pregnancy result. Notwithstanding, the modest number of studies, the inconstancy in the examination plans and the dated idea of a large part of the creature work proposes ends can't be drawn right now. The absence of inner consistency in the information is of specific concern. Moreover, it isn't at all obvious from these investigations whether any distinctions in reproductive execution that may exist can be credited to contrasts in dietary status of the creatures, or whether the information reflects unfriendly impacts of pesticide deposits or different synthetic compounds. The minuscule contrasts in supplement substance of harvests developed under the two frameworks that were examined before (p. 20) would be probably not going to give a nutritional premise to the distinctions in regenerative execution in these



creatures [27-29].

Impacts of Agricultural Methods on Human Health

There have been no post-war controlled examinations that have analyzed impacts of natural and ordinary items on human wellbeing; such investigations present impressive issues of practicality, cost and morals. They should be completed under painstakingly controlled conditions throughout significant stretches of time, accordingly restricting the number and kind of subjects who might be qualified and accessible for study.

A couple of observational investigations of sperm quality in natural and non-natural ranchers have been distributed, with one examination showing lower semen includes in customary ranchers than natural ranchers and the further examination showing no difference between the two gatherings [20]. In later investigations crops developed with blended manures were found to have more β -carotene and minerals yet lower levels of B nutrients than crops developed naturally.

No impacts of these things on blood factors were seen in grown-ups. Absence of significant dietary information, heterogeneity in the investigation populaces and restricted data on developing states of the food sources utilized implies that quite a bit of this early information can't be examined by current logical measures. Therefore, no important derivations or translations can be gotten from these investigations [31].

CONCLUSION

There have been not very many logical examinations in which food sources developed ordinarily have been thought about, under similar and controlled conditions, with those created naturally, regarding their supplement arrangement or their organic impacts on creatures or human subjects. No doubt couple of contrasts can be illustrated, and where contrasts are identified they are minuscule.

A few examinations have shown marginally improved levels of specific micronutrients, for example nutrient C substance, in natural nourishments contrasted and food sources developed ordinarily. To a limited extent this finding might be credited to higher water content in some routinely developed nourishment. It is impossible that little contrasts in supplement substance would have wellbeing suggestions for purchasers. Upcoming studies that can calculate effects of growing conditions on levels of protective phytochemicals are immediately required.

Animal studies that have been performed to compare health effects of conventionally- and organically-grown produce are very limited in number and have involved only a small number of species. Restrictions in the study designs and lack of internal stability in the conclusion mean that the current data are of inadequate value in providing a scientific basis for evaluating health effects of organic foods. There are practically no studies of any size that have predictable effects of organic *vs*. conventionally-grown foods on human health.

Observational studies that have been performed to compare the health profiles of organic and conventional farmers are of problematic value because of the possibility of confounding by other lifestyle factors. The quality and quantity of the science applied in this area to date is insufficient. Conclusions cannot be drawn regarding potentially beneficial or unfavorable nutritional consequences, to the consumer, of increased consumption of organic foods.

REFERENCES

- 1) Aehnelt E & Hahn J (1973) Fertility of animals a means to test organic food and feed stuff? Tierarztliche Umschau 28, 155–160. Aehnelt E & Hahn J (1978) Animal fertility: a possibility forbiological quality assay of fodder and feeds. Biodynamics 25, 36–47.
- 2) Alter G (1978) Effect of dietary factors on fertility, vitamin C content and the histology of the ovary in female rabbits. Dissertation, Tierarztliche Hochschule, Hannover, Germany.
- 3) Bram L (1974) Effect of dietary factors on fertility, vitamin C content and the histology of the ovary and adrenal gland in female rabbits. Dissertation, Tierarztliche Hochschule, Hannover, Germany.
- 4) Daldy Y (1940) Food production without artificial fertilisers. Nature 145, 905–906.
- 5) Dost FH & Schupan W (1944) Experiments with vegetables produced with different fertilizers. Ernährung (Leipzig) 9, 581–586.
- 6) Edelmuller I (1984) Quality of food produced organically or with conventional methods feeding studies in rabbits. Dissertation, University of Vienna, Austria.
- Elm Farm Research Centre (1989) Quality of Organically Produced Foods. Proceedings of International Scientific Colloquium February 1989. Newbury, Berks.: Elm Farm Research Centre.
- 8) Gottschewski GHM (1975) New toxicological methods to study pesticides and herbicides. Plant Foods for Human Nutrition 25, 21–42.
- 9) Hahn J, Aehnelt E, Grunert E, Schiller H, Lengauer E, Schulz L-Cl & Pohlenz J (1971) Effect of organically and conventionally produced hay on uterus and ovary health. Deutsche Eierarztliche Wochenschrift 78, 114–118.
- 10) House of Lords Select Committee on European Communities (1999) House of Lords Select Committee on European Communities Sixteenth Report. Organic Farming and the European Union. London: The Stationery Office.
- 11) Institute of Food Science and Technology (1999) Position statement: organic food. www.ifst.org
- 12) Jensen TK, Giwercman A, Carlsen E, Scheike T & Skakkebaek NE (1996) Semen quality among members of organic food associa- tions in Zeland Denmark. Lancet 347, 1844.
- 13) Juhler RR, Larsen SB, Meyer O, Jensen ND, Spano M, Giwercman A & Bonde JP (1999) Human semen quality in relation to dietary pesticide exposure and organic diet. Archives of Environmental Contamination and Toxicology 37, 415–423.
- 14) Klurfeld DM (2000) Organic food: food for thought? http://www.acsh.org/press/editorials/organicfood021700.html Lampkin N (editor) (1990) The wider issues. In Organic Farming, pp. 557–611. Ipswich, Suffolk: Farming Press.
- 15) McCarrison R (1926) The effect of manurial conditions on the nutritive and vitamin values of millet and wheat. Indian Journal of Medical Research 14, 351–378.
- 16) McSheehy TW (1977) Nutritive value of wheat grown under organic and chemical systems of farming. Qualitas Planitarum27, 113–123.
- 17) Meinecke B (1982) Effect of conventionally and organically produced feed stuff on the fertility of rabbits. Zentrablatt für Veterinarmedizin 29, 5–15.
- 18) Miller DS & Dema IS (1958) Nutritive value of wheat from the Rothamsted Broadbalk field. Proceedings of the Nutrition Society 17, xliv–xlv.
- 19) Neudecker C (1987) Studies in Animals on the Effect of Conventional and Organic Potatoes and Carrots, pp. 110–125. Tutzing, Germany: Akademie für Politische Bildung.
- 20) Reiter H, Ertel H, Wendt H, Pies Prufer J, Barth L, Schroder H, Catel W, Dost FH &

Scheunert A (1938) Nutritional studies on the effect on vegetables produced with and without fertilizers. Emährung (Leipzig) 3, 53–69.

- 21) Rowlands MJ & Wilkinson B (1930) Vitamin B content of grass reeds in relation to manures. Biochemistry Journal 24, 199–204.
- 22) Scheunert A, Sachne M & Speche R (1934) Efficacy of food produced with and without fertilizer. Biochemistry Journal 274, 372–396.
- 23) Schupan W (1972) Effects of the application of inorganic and organic manures on the market quality and on the biological value of agricultural produce. Qualitas Planitarum 21, 381–398. Schupan W (1975) Yield maximisation versus biological value. Qualitas Planitarum 24, 281–310.
- 24) Scott PP, Greaves JP & Scott MG (1960) Reproduction in laboratory animals as a measure of the value of some natural and processed foods. Journal of Reproduction and Fertility 1, 130–138.
- 25) Staiger D (1986) Effect of conventional and organic feed stuff on fertility, health, and meat quality in rabbits. Dissertation, Rheinische Friedrich Wilhelms Universität, Bonn, Germany.
- 26) Tinker PB (editor) (2001) Shades of Green: A Review of UK Farming Systems. Stoneleigh Park, War.: Royal Agricultural Society of England.
- 27) Velimirov A, Plochberger K, Huspeka U & Schott W (1992) The influence of biologically and conventionally cultivated food on the fertility of rats. Biological Agriculture and Horticulture 8,325–337.
- 28) Wendt H (1943) Long term studies in humans on the effect of vegetables and potatoes produced with different fertilizers. Ernährung (Leipzig) 8, 281–295.
- 29) Woese K, Lange D, Boess C & Bogl KW (1997) A comparison of organically and conventionally grown foods results of a review of the relevant literature. Journal of the Science of Food and Agriculture 74, 281–293.
- 30) Worthington V (1998) Effect of agricultural methods on nutritional quality: a comparison of organic with conventional crops. *Alternative Therapies* **4**, 58–68.
- 31) Wright S (1997) Europe goes organic. Food Ingredients Europe 3,39-43.