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# WORD-FORMATION IN ENGLISH AGRICULTURAL TERMINOLOGY: A LINGUISTIC AND FUNCTIONAL PERSPECTIVE

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**Abstract.** This article examines the main word-formation mechanisms in English agricultural terminology. It focuses on derivation, compounding, conversion, abbreviation, and borrowing as the primary means of creating terms in the agricultural domain. The study uses examples from glossaries, academic texts, and databases to illustrate how such processes serve both linguistic efficiency and scientific clarity. The research contributes to applied linguistics and terminology, and is relevant for educators, translators, and specialists working in agrarian studies.
**Keywords:** agricultural terminology, word-formation, derivation, compounding, English language, linguistics, applied terminology.

Agricultural terminology constitutes a crucial component of scientific and technical communication in one of the most vital sectors of human life: food production and rural development [1, 12]. As agriculture evolves in tandem with advances in biotechnology, climate science, and digital innovation, its terminology continuously expands to accommodate new concepts, processes, and technologies [2, 45]. Thus, the formation of agricultural terms becomes not only a linguistic phenomenon but also a reflection of socio-economic, scientific, and cultural development [4, 103].

The English language, due to its status as a global lingua franca in scientific and technical domains, has played a dominant role in shaping and spreading agricultural knowledge worldwide [3, 67]. Accordingly, the study of how English agricultural terms are formed offers valuable insights into both the linguistic structure of scientific discourse and the socio-pragmatic needs of communication within this sector [6, 89].

This paper aims to analyze the most common and productive word-formation mechanisms involved in the development of agricultural terminology in English. Particular emphasis is placed on processes such as derivation, compounding, conversion, abbreviation, and borrowing [1, 29; 2, 51]. These mechanisms are examined in terms of their structural features, semantic transparency, and functional roles in terminological expansion.

Word-formation is a fundamental area of linguistic research that focuses on the internal structure and formation of new lexical units. In the field of terminology, word-formation plays a key role in the systematic development of specialized vocabularies, particularly in technical and scientific disciplines such as agriculture [1, 14]. According to Bauer, word-formation can be defined as “the process of creating new words by means of existing morphological elements” [1, 33]. The productivity of word-formation processes reflects both the linguistic flexibility of a language and the terminological demands of specific subject fields.

In linguistic theory, word-formation is typically divided into several major categories: derivation, compounding, conversion, clipping, blending, and borrowing [2, 45; 3, 59]. These

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processes have been extensively analyzed in general linguistics [2, 48; 3, 61], as well as in terminology studies [4, 103; 6, 89]. In applied terminology, particularly in scientific discourse, the formation of terms is not only a matter of linguistic structure but also of cognitive clarity, semantic transparency, and cross-linguistic translatability [5, 61].

In the context of agricultural terminology, word-formation is particularly dynamic due to the interdisciplinary nature of the field. Terms often emerge at the intersection of biology, chemistry, environmental science, and engineering. As a result, agricultural terminology makes use of both native English resources and internationally borrowed elements, including Greek and Latin roots, as well as loanwords from other European languages [2, 77]. For instance, terms like *agronomy*, *photosynthesis*, *pesticide*, and *hybridization* illustrate the mixture of morphological processes and etymological influences involved in the formation of agricultural vocabulary [3, 74; 6, 89].

Furthermore, terminology theorists such as Eugen Wüster and Maria Teresa Cabré emphasize the need for terminological standardization in technical communication [4, 103]. This need is especially apparent in agriculture, where cross-border cooperation, policy-making, and knowledge exchange depend on accurate and consistent terminology [6, 95].

Thus, understanding the theoretical foundations of word-formation provides a basis for analyzing how English agricultural terms are created, disseminated, and maintained in scientific practice.

***Derivation*** is one of the most productive and transparent word-formation processes in English. It involves the addition of **prefixes** or **suffixes** to base words to create new terms or change word class (part of speech). In agricultural terminology, derivation is commonly used to specify **scientific processes, tools,** or **attributes**.

For example: *cultivate* → *cultivation*, *fertile* → *fertilizer*, *irrigate* → *irrigation*, *insect* → *insecticide*

These examples show how **Latinate suffixes** such as *-tion*, *-er*, *-ity*, and *-cide* are frequently employed to form nouns denoting actions, tools, and chemical agents in agriculture. Derivation is useful for expanding terminology in a systematic way while preserving semantic clarity. Many such terms are international in form and meaning, facilitating scientific exchange.

***Compounding*** involves the combination of two or more words (usually roots) to form a new lexical unit. This is especially widespread in agricultural English, where complex concepts are often represented economically via compound nouns.

Examples include: *greenhouse*, *pesticide resistance*, *soil fertility*, *crop rotation*, *farmworker*

Compound terms can be **closed** (e.g., *greenhouse*), **hyphenated** (*soil-borne*), or **open** (*crop yield*). Agricultural terminology often uses compound nouns to denote **methods, tools, roles,** or **conditions** in farming systems. This strategy enhances semantic precision and functional labeling within agro-scientific discourse.

***Conversion*** (or zero-derivation) refers to the process where a word shifts its grammatical category without any morphological change. In agriculture, conversion is seen particularly when **nouns become verbs** or **verbs become nouns,** often in technical contexts.

Examples: *to harvest* (verb) ← *harvest* (noun), *to seed*, *to plant*, *to spray*, *to mulch*

This process creates concise and practical terminology suited for field manuals, reports, and technical communication. It reflects the action-oriented nature of agricultural work and simplifies the lexicon.

***Abbreviated forms*** are common in modern agricultural discourse, especially in scientific writing, policy documents, and institutional terminology. These include:

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Acronyms: *GMO* (genetically modified organism), *IPM* (integrated pest management), *FAO* (Food and Agriculture Organization)
Initialisms: *USDA* (United States Department of Agriculture), *NPK* (nitrogen, phosphorus, potassium)
Clippings: *bio* (biotechnology), *agri* (agriculture)
Abbreviation serves both **space-saving** and **identity-marking** functions in agricultural language, especially in international contexts. However, excessive use can reduce transparency for non-specialists.
Agricultural English contains many loanwords, particularly from **Latin, Greek**, and **French**, reflecting the historical development of agricultural science. Examples: *agronomy* (Greek), *pesticide* (Latin root *pestis*), *terrace* (French)
Loanwords often serve to introduce **new concepts** or **prestige terms** and are common in academic and professional discourse. Their usage indicates the **global and interdisciplinary** evolution of agriculture.
This section presents real examples of agricultural terms formed through the five-primary word-formation processes discussed earlier. The aim is to illustrate the morphological diversity, semantic range, and functional clarity of terminology used in English agricultural discourse.
**Derivation in Practice.** Derived terms are widely used to denote tools, processes, and substances in agriculture: *Fertilizer* (from *fertile* + *-izer*): A substance that increases soil fertility; *Cultivation* (from *cultivate* + *-tion*): The act of preparing land for crops; *Herbicide* (from *herb* + *-cide*): A chemical used to destroy unwanted vegetation.
Such terms often use Latin and Greek affixes and are considered internationalisms, as they appear with minimal variation across many languages.
**Compound Terms.** Compound structures are especially frequent in modern agricultural vocabulary: *Crop yield* – the amount of produce obtained from a unit of land; *Pest management* – practices aimed at controlling harmful organisms; *Greenhouse effect* – the environmental concept relevant to both agriculture and climate science.
Compound terms tend to be semantically transparent, allowing easy comprehension by experts and semi-specialists alike.
**Conversion and Functional Shift.** Verbs formed from nouns (and vice versa) are efficient and action-oriented: *To harvest, to seed, to weed, to spray*
These allow for verb-heavy instructions in agricultural manuals and field reports.
This conversion mechanism simplifies the lexicon without sacrificing meaning, making it ideal for **practical communication** in agrarian contexts.
Acronyms and initialisms enhance efficiency in written communication: *GMO*, *FAO*, *IPM*, *USDA*, *NPK* These forms are widely used in reports, research papers, and international dialogues. However, their overuse may hinder clarity for non-specialist audiences.
Clippings such as *agri-business* or *ag-tech* illustrate domain branding and serve a dual function as both linguistic shorthand and field identity markers.
**Loanwords and Etymological Diversity.** Many agricultural terms in English are borrowed from classical languages: *Agronomy, irrigation, pesticide, hydroponics, terrace*
Such terms often enter the language through scientific channels and are linked with technological advancement and scholarly dissemination. Their use reflects the global, interdisciplinary roots of agricultural science.

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The analysis reveals that derivation and compounding are the most productive and transparent processes in agricultural terminology. Loanwords contribute significantly to scientific depth, while conversion and abbreviations serve practical and communicative functions. Together, these processes demonstrate how the language of agriculture adapts to the evolving demands of science, policy, and technology.

The linguistic study of agricultural terminology in English reveals a diverse and systematic use of word-formation mechanisms. As demonstrated, derivation and compounding serve as the primary tools for expanding domain-specific vocabulary, offering semantic clarity and structural regularity. These processes enable the creation of terms that are not only functionally precise but also accessible across different subfields within agricultural science.

**Conversion** provides syntactic flexibility, allowing for more dynamic and action-oriented usage in instructional and practical contexts. Abbreviations, while enhancing brevity in formal and institutional communication, require careful management to avoid ambiguity. Loanwords – particularly those of Greek and Latin origin—underscore the historical depth and interdisciplinary nature of agricultural knowledge, embedding scientific authority and international compatibility within the terminology.

The findings of this paper confirm that English agricultural terminology reflects both linguistic innovation and functional necessity. The interplay between morphological economy and semantic transparency ensures that agricultural discourse remains effective, whether in academic writing, international collaboration, or on-the-ground communication.

In a broader perspective, this research contributes to the field of applied linguistics, terminology studies, and ESP (English for Specific Purposes). It may assist translators, lexicographers, agricultural educators, and curriculum developers in creating clearer, more coherent linguistic tools for teaching and disseminating agricultural knowledge.

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