included those shown in Table 1. No carbon-14 was detected in the barium hydroxide traps.

These results indicate that in the slices of germinating peas, the carbon-14 of the ethanol-2-^{14}C rapidly became distributed among a large number of organic compounds. Furthermore the pattern of this labelling was similar to the changes in concentration of the organic and keto-acids occurring in intact germinating peas during the disappearance of the endogenous ethanol. This would suggest that germinating pea tissues, unlike the mature carrot disks used by Lowe and James[5], are capable of metabolizing ethanol. Therefore there is reason to suppose that at least some of the ethanol accumulated under anaerobic conditions can be utilized during the subsequent aerobic phases of germination in peas.

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Variability of the Niacin Content in Coffee

It has been found that coffee seeds contain small amounts of certain vitamins, among which niacin prevails in higher proportion. An average consumption of 3·5 cups of coffee per day could supply about one-third of the minimum daily niacin requirement for a normal adult male[1]. In order to determine the possible effect on niacin content of varying environmental conditions under which coffee is grown, as well as of the different methods of processing, two sets of specially prepared samples were analysed.

In April, 1958, four such samples were prepared: two belonged to the Bourbon Vermelho cultivar (*C* 662) and two to the Bourbon Amarelo (Jaú). The samples were derived from sun-dried beans (dried with pericarp), which is the usual system used by the majority of Brazilian coffee farms. One sample of each cultivar was taken from plants grown without shade, while the other was derived from shaded coffee plants. Table 1 shows the amounts of niacin obtained. While the niacin content seems to be similar in both cultivars, the amount of niacin obtained from samples collected from shaded coffee trees was in both cases reduced.

During November 1959 new samples were prepared from coffee plants of the cultivars Bourbon Vermelho (*LC* 408), Mundo Novo (*LCP* 379–19) and Bourbon Amarelo (*LCJ* 30), grown in shaded and unshaded environments. Some of the samples were from sun-dried beans while others were from de-pulped coffee (dried in parchment). The results obtained are given in Table 2.

Table 1. Showing the Amount of Niacin Obtained

Cultivar	Treatment	Niacin (mgm./gm.)
Bourbon Vermelho (*C*662)	Without shade	0·329
Bourbon Vermelho (*C*662)	Shaded	0·237
Bourbon Amarelo (Jaú)	Without shade	0·332
Bourbon Amarelo (Jaú)	Shaded	0·260

Table 2

Cultivar	Treatment	Niacin (mgm./gm.)
Bourbon Vermelho (*LC*408)	Without shade, sun-dried cherries	0·329
Bourbon Vermelho (*LC* 408)	Without shade, dried in parchment	0·400
Bourbon Vermelho (*LC*408)	Shaded, sun-dried cherries	0·271
Bourbon Vermelho (*LC* 408)	Shaded, dried in parchment	0·314
Mundo Novo (*LCP* 379–19)	Without shade, dried in parchment	0·265
Mundo Novo (*LCP* 379–19)	Shaded, dried in parchment	0·226
Bourbon Amarelo (*LCJ* 30)	Without shade, dried in parchment	0·160
Bourbon Amarelo (*LCJ* 30)	Shaded, dried in parchment	0·206

With the exception of the results obtained with samples of the cultivar Bourbon Amarelo (*LCJ* 30), shade again reduced the niacin content. It can also be seen that the de-pulping operation seems to increase the amount of niacin content, although not so markedly as when coffee is grown without shade.

It is, furthermore, noteworthy that the latter three cultivars differ in niacin content, indicating that selection might be effective in isolating strains with higher amounts of this vitamin.

In order to obtain reliable comparative results when investigating the niacin content in coffee seeds, it is therefore necessary to use samples collected from coffee trees grown under identical environmental conditions and also that the samples be processed the same way.

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Biochemical Contributions to the Taxonomy of the Genus *Chlorella*

Since Warburg's[1] work, in 1919, green algae of the genus *Chlorella* have been among the experimental organisms most frequently used for plant physiological and biochemical research. However, due to the little morphological differentiation of their more or less spherical cells, the taxonomy of these algae has been rather confused (cf. ref. 2). This holds especially true for the members of the section *Euchlorella* comprising the most common species, that is, *Chlorella vulgaris* Beijerinck, *Chl. pyrenoidosa* Chick, and *Chl. ellipsoidea* Gerneck. The criteria given by Pascher[3] for their identification (size and shape of cells and chloroplasts, visibility of the pyrenoid, etc.) have been shown to be highly variable and ambiguous, and to depend to a large extent on culture conditions and developmental stage of the cells[4]. Therefore, in most cases it is very difficult, if not impossible, to identify these species by morphological criteria. Since the characteristics traditionally used for taxonomy are obviously insufficient in this case, we propose to use mainly physiological and biochemical rather than morphological criteria for the identification of these *Chlorella* species.

The experimental material used in this work was the strains of *Chlorella* available in the culture collection of Prof. Pringsheim, Göttingen. Three biochemical